



# MMWR<sup>TM</sup>

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### Severe *Clostridium difficile*-Associated Disease in Populations Previously at Low Risk — Four States, 2005

*Clostridium difficile* is a spore-forming, gram-positive bacillus that produces exotoxins that are pathogenic to humans. *C. difficile*-associated disease (CDAD) ranges in severity from mild diarrhea to fulminant colitis and death. Antimicrobial use is the primary risk factor for development of CDAD because it disrupts normal bowel flora and promotes *C. difficile* overgrowth. *C. difficile* typically has affected older or severely ill patients who are hospital inpatients or residents of long-term-care facilities. Recently, however, both the frequency and severity of health-care-associated CDAD has increased; from 2000 to 2001, the rate of U.S. hospital discharge diagnoses of CDAD increased by 26% (1). One possible explanation for these increases is the emergence of a previously uncommon strain of *C. difficile* responsible for severe hospital outbreaks (2). Although individual cases of CDAD are not nationally reportable, in 2005, the Pennsylvania Department of Health (PADOH) and CDC received several case reports of serious CDAD in otherwise healthy patients with minimal or no exposure to a health-care setting. An investigation was initiated by the Philadelphia Department of Public Health (PDPH), PADOH, and CDC to determine the scope of the problem and explore a possible change in CDAD epidemiology. This report summarizes the results of the investigation in Pennsylvania and three other states, which indicated the presence of severe CDAD in healthy persons living in the community and peripartum women, two populations previously thought to be at low risk. The findings underscore the importance of judicious antimicrobial use, the need for community clinicians to maintain a higher index of suspicion for CDAD, and the need for surveillance to better understand the changing epidemiology of CDAD.

#### Case Reports

**Case 1.** A woman aged 31 years who was 14 weeks pregnant with twins went to a local emergency department (ED) after 3 weeks of intermittent diarrhea, followed by 3 days of cramping and watery, black stools 4–5 times daily. Stools specimens tested positive for *C. difficile* toxin, and the patient was admitted. Her only antimicrobial exposure during the preceding year was trimethoprim-sulfamethoxazole (for a urinary tract infection) approximately 3 months before admission. She was treated with metronidazole and discharged but was readmitted the next day for 18 days with severe colitis, receiving metronidazole, cholestyramine, and oral vancomycin. She improved on vancomycin and was allowed to return home. However, 4 days later she was readmitted with diarrhea and hypotension. She spontaneously aborted her fetuses. Despite aggressive treatment including a subtotal colectomy, intubation, and inotropic medication, the patient died on the third hospital day. Histopathologic examination of the colon demonstrated megacolon with evidence of pseudomembranous colitis.

**Case 2.** A girl aged 10 years (unrelated and without contact with case 1) went to a children's hospital ED because of intractable diarrhea, projectile vomiting, and abdominal pain. She had not taken antimicrobials during the preceding year.

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**Notifiable Disease Morbidity and 122 Cities Mortality Data**

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Stool specimens were positive for *C. difficile* toxin. The child had been healthy until 2 weeks before the ED visit, when she became symptomatic within days of her younger brother having a febrile diarrheal illness. The boy was not on antimicrobials when he became ill. His symptoms resolved within 2–3 days without medical treatment, but his sister had fever as high as 102°F (39°C), abdominal pain, and diarrhea. One week into her illness, she was examined by a clinician, who performed a rapid streptococcal antigen test on a swab from her oropharynx; the result was positive. The patient was prescribed amoxicillin but was unable to take it because of her stomach cramps and diarrhea; her symptoms worsened until she was having liquid stools up to 14 times daily. Symptoms resolved with hospital admission and the administration of intravenous fluids, electrolytes, and metronidazole.

**Epidemiologic and Laboratory Investigations**

In May and June 2005, a request for voluntary reports of peripartum CDAD (i.e., 4 weeks before and after delivery) was initiated by PDPH; case definitions for peripartum CDAD were developed and distributed nationally through the *Epidemic Information Exchange (Epi-X)* and locally through the PDPH Health Alert Network (HAN). The New Jersey Department of Health and Senior Services also distributed the alert statewide through its HAN system. A separate request for reporting of community-associated CDAD (CA-CDAD) along with a case definition was developed and distributed in June in Philadelphia and four surrounding Pennsylvania counties (Bucks, Chester, Delaware, and Montgomery) through local and statewide HANs (Box).

Detailed, open-ended interviews were conducted with patients who were reported by hospital personnel to state and local health departments after distribution of the notices. Medical details, such as type of antimicrobial agent and duration, were confirmed with treating clinicians whenever possible. To determine the minimum population rate and rate per antimicrobial prescription of CA-CDAD, the number of cases reported from Philadelphia and four surrounding counties were divided by 2004 U.S. census population estimates for these five areas. The number of antimicrobial prescriptions were calculated on the basis of census estimates of the population surveyed, multiplied by national prescribing rate estimates (3). Available toxin-positive stool samples were cultured for *C. difficile* using standard methods. Isolates underwent pulsed-field gel electrophoresis (PFGE), toxinotyping, and detection of binary toxin and deletions in *tcdC*, a putative negative regulator of toxin production (2,4).

**BOX. Case definition for *Clostridium difficile*-associated disease (CDAD)****Confirmed case of community-associated CDAD**

Any adult or child with each of the following:

- Diarrhea
- No serious, chronic underlying illness (e.g., severe chronic liver or kidney disease)
- No overnight stay in a health-care facility for  $\geq 3$  months before diarrhea onset
- Evidence of CDAD by any of the following:
  - positive assay for *C. difficile* toxin
  - colonic histopathology characteristic of *C. difficile* infection
  - pseudomembranous colitis observed on lower gastrointestinal endoscopy
  - positive stool culture for *C. difficile*

**Confirmed case of peripartum CDAD**

Any peripartum female (defined for this purpose as 4 weeks before and 4 weeks after delivery) with each of the following:

- Diarrhea
- No serious, chronic underlying illness
- Evidence of CDAD by any of the following:
  - positive assay for *C. difficile* toxin
  - colonic histopathology characteristic of *C. difficile* infection
  - pseudomembranous colitis observed on lower gastrointestinal endoscopy
  - positive stool culture for *C. difficile*

Ten peripartum and 23 CA-CDAD cases were reported from four states during May–June 2005 (Table 1), with onset dates ranging from February 26, 2003, to June 28, 2005. All but one of the cases occurred during 2004–2005. Age of nonperipartum cases ranged from 6 months to 72 years (mean:

26 years; median: 23 years). Peripartum cases occurred in patients from New Hampshire, New Jersey, Ohio, and Pennsylvania; because CA-CDAD surveillance was conducted only in the greater Philadelphia area, these cases were only from this area. Transmission to close contacts was evident for four cases: two were in children of CDAD patients with peripartum exposures, one was in an adult caring for a hospitalized parent with confirmed CDAD, and one was in an adult who visited a parent with confirmed CDAD in a nursing home. One peripartum mother who transmitted *C. difficile* to her child also transmitted CDAD to a family friend.

Eight (24%) of 33 patients reported no exposure to antimicrobial agents within 3 months before CDAD onset. Five of these were children, three of whom required hospitalization. Three of the eight cases without exposure to antimicrobial agents occurred in patients who had close contact with a person with diarrheal illness; two of these persons had confirmed CDAD. An additional three (9%) of 33 patients contracted CDAD after receiving  $\leq 3$  doses of antimicrobials; two received only 1 dose of clindamycin for group B streptococcus prophylaxis before CDAD onset. Clindamycin was the most common antimicrobial exposure noted; overall, 10 (30%) of 33 cases were in patients who reported exposure to the drug before disease onset; these 10 patients included the two who had  $\leq 3$  doses of antimicrobials. Fifteen (46%) patients required hospitalization or an ED visit. Thirteen (39%) patients had a relapse of disease and required antimicrobials.

The estimated minimum annual incidence of CA-CDAD in Philadelphia and its surrounding four counties during July 2004–June 2005 was 7.6 cases per 100,000 population, with one case of CDAD for every 5,549 outpatient antimicrobial prescriptions; this figure is based on national estimates of antimicrobial prescribing in ambulatory settings applied to the Philadelphia area. Two patient isolates were available for characterization and were compared with the recently described “epidemic strain” that has been detected as the cause of either

**TABLE 1. Clinical features of *Clostridium difficile*-associated disease (CDAD) in patients\* with community and peripartum exposures, by case type and selected characteristics — New Hampshire, New Jersey, Ohio, and Pennsylvania, 2005**

Type	Characteristic									
	Aged $\leq 18$ yrs		Female sex		Previous antimicrobial use†		Contact with gastrointestinal illness§		Bloody diarrhea	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Community	11/23	(48)	15/23	(65)	15/23	(65)	7/23	(30)	6/23	(26)
Peripartum	0/10	(0)	10/10	(100)	9/10	(90)	0/10	(0)	2/10	(20)
<b>Total</b>	<b>11/33</b>	<b>(33)</b>	<b>25/33</b>	<b>(76)</b>	<b>24/33</b>	<b>(73)</b>	<b>7/23</b>	<b>(30)</b>	<b>8/33</b>	<b>(24)</b>
									<b>10/33</b>	<b>(30)</b>
									<b>5/33</b>	<b>(15)</b>
									<b>13/33</b>	<b>(39)</b>

\* N = 33.

† Defined as receipt of an antimicrobial within 3 months before diarrhea onset.

§ Defined as direct or household contact with another person with diarrheal illness.

severe hospital outbreaks or hospital-endemic cases of CDAD in 16 states (2; CDC, unpublished data, 2005). Neither shared the same toxinotype as the epidemic strain, but both were binary toxin positive; one isolate, from an Ohio peripartum CDAD case, was >80% related by PFGE to the epidemic strain, and the other, from a Philadelphia-area CA-CDAD case, had an 18-bp deletion in *tcdC* (Table 2).

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**Editorial Note:** Considered in the context of recent high-morbidity, hospital-associated outbreaks in North America, Great Britain, and the Netherlands (5), these cases of severe CDAD disease in populations previously thought to be at low risk might further reflect the changing epidemiology of CDAD. Certain features of CDAD that have been uncommon in the past, such as close-contact transmission, high recurrence rate, young patient age, bloody diarrhea, and lack of antimicrobial exposure, might be changing.

*C. difficile* exotoxins A and B cause colonic dysfunction and cell death. The epidemic strain produces 16 times more toxin A and 23 times more toxin B compared with other common strains (5). The increased severity of epidemic CDAD might result from this level of toxin production; however, the actual role of *tcdC* deletions in increased toxin production has not been determined. *C. difficile* toxinotype 0 is the historical standard type; variant toxinotypes have previously accounted for <20% of U.S. hospital isolates (6). Although the role of this binary toxin in human disease is unknown, it was previously detected in only 6% of clinical isolates but now is found

uniformly in the epidemic strain (6). The isolates recovered during this investigation were both variant toxinotypes and carried the gene for binary toxin; one also carried the same 18-bp deletion in *tcdC* as the epidemic strain.

Virulent strains, which cause more severe disease in populations at high risk, might also cause more frequent, severe disease in populations previously at low risk (e.g., otherwise healthy persons with little or no exposure to health-care settings or antimicrobial use). Although the minimum annual incidence cited in this report is similar to previous estimates in ambulatory populations (eight to 12 cases per 100,000 population), the CA-CDAD case definition more stringently excluded hospital-acquired CDAD (7,8). The estimated case rate per antimicrobial prescription is twice as high as the <1 case per 10,000 incidence cited in these earlier studies (7,8). Because reporting in this investigation was voluntary, the true incidence of community CDAD is probably higher. Because historic surveillance data are not available, determining whether CDAD rates in peripartum women are changing is not possible; however, the only available report suggests a low baseline incidence, with only three obstetric cases identified among 74,120 obstetrics and gynecology admissions to one North Carolina hospital during 1985–1995 (9).

The findings in this report are subject to at least two limitations. First, because the report describes a convenience sample, the results are subject to reporting and selection biases. Second, because this sample was collected in a limited geographic region, results might not be generalizable to other regions. Moreover, although a single national estimate for ambulatory prescribing rates was applied to this region, substantial variation in these rates might exist.

Further investigation into the scope of CA-CDAD acquisition and related risk factors is warranted. Nonetheless, the cases described in this report demonstrate the need for clinicians to consider the diagnosis of CDAD in patients with severe diarrhea even if the patients do not necessarily have traditional risk factors such as recent hospitalization or antimicrobial use. Patients should seek medical attention for diarrhea lasting longer than 3 days or accompanied by blood or high fever. The findings underscore the fact that antimicrobial exposure is not benign and that judicious antimicrobial use in all health-care settings should continue to be emphasized.

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**TABLE 2. Comparison of molecular characteristics of two *Clostridium difficile* isolates with historical standard-type strains and a recently recognized epidemic strain, by selected characteristics — Ohio and Pennsylvania, 2005**

Characteristic	Strain			
	Standard	Epidemic	Ohio	Pennsylvania
Toxinotype	0	III	IX	XIV/XV
PFGE* pattern	<80% related to NAP1†	NAP1	85% related to NAP1	64% related to NAP1
Binary toxin	-	+	+	+
18-bp deletion in <i>tcdC</i>	-	+	-	+

\* Pulsed-field gel electrophoresis.

† North American pulsed-field type 1.

**SOURCE:** McDonald LC, Killgore GE, Thompson A, et al. Emergence of an epidemic, toxin gene variant strain of *Clostridium difficile* responsible for outbreaks in the United States between 2000 and 2004. *N Engl J Med* 2005 (in press).



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## Early-Onset and Late-Onset Neonatal Group B Streptococcal Disease — United States, 1996–2004

In 2002, CDC, the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Pediatrics (AAP) issued revised guidelines for prevention of perinatal invasive group B streptococcal (GBS) disease (1,2). These guidelines recommend universal screening of pregnant women for rectovaginal GBS colonization at 35–37 weeks' gestation and administering intrapartum antimicrobial prophylaxis to carriers. To assess the impact of the guidelines on multistate trends in neonatal GBS disease incidence, CDC analyzed data from the Active Bacterial Core surveillance (ABCs) system from 1996–2004. This report summarizes the results of that analysis, which determined that incidence of GBS disease in infants aged 0–6 days (i.e., early-onset disease) in 2004 had decreased by 31% from 2000–2001, the period immediately before universal screening was implemented. Incidence of GBS disease in infants aged 7–89 days (i.e., late-onset disease) remained unchanged during the 9-year period reviewed. Continued monitoring is needed to assess the impact of the

2002 guidelines on early-onset disease and the long-term effect of widespread intrapartum use of antimicrobial agents on neonatal GBS disease.

ABCs, part of CDC's Emerging Infections Program (EIP) Network, conducts active, population-based surveillance for invasive GBS disease, defined as isolation of GBS from a normally sterile site. The surveillance areas represented approximately 337,000 live births in 1996 and approximately 427,000 live births in 2004.\* ABCs collects data from standardized case-report forms that capture demographic, obstetric, and neonatal data from medical records. For this analysis, infants were classified by race and by Hispanic ethnicity independently.† Where race or ethnicity was missing from the case-report form, race or ethnicity as recorded on the birth certificate was used. Otherwise, race was imputed (for 15% of cases) using a multiple imputation method (3). To calculate annual incidence, natality data reported by state vital records or national vital statistics reports (4) were used as denominators. Incidence for 2004 was calculated using 2003 natality data in the denominator. The Cochran-Armitage chi-square test was conducted to determine trend significance.

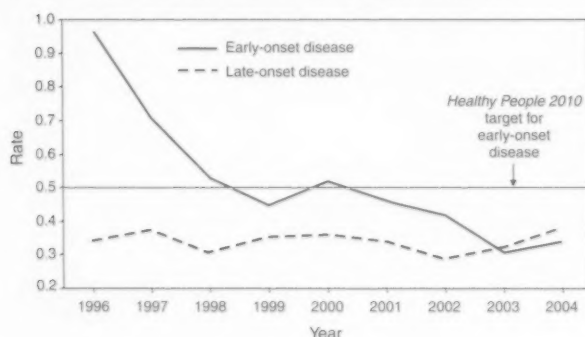
In 2004, a total of 308 cases of neonatal GBS disease were reported in EIP surveillance areas participating since 2001, including 146 (47%) early-onset cases and 162 (53%) late-onset cases. By race, 55% of infants with neonatal disease (early-onset and late-onset) were white, 42% were black, and 3% were of other races; by ethnicity, 19% were Hispanic, 48% were non-Hispanic, and 33% were of unknown ethnicity. Overall, 51% of the infants were female. Among early-onset cases with complete data, the proportion born at <37 weeks' gestation increased significantly from 20% (40 of 204) in 2000 to 29% (41 of 141) in 2004 ( $p<0.01$ ). Among late-onset cases with complete data in 2004, 55% (81 of 147) were born preterm. Among both early-onset and late-onset cases, case-fatality ratios remained highest for preterm infants, at 23% (nine of 40) and 9% (seven of 80) for early-onset and late-onset cases, respectively. Among term infants, the case-fatality ratio was 4% (four of 100) for early-onset cases, and no deaths were reported for 66 late-onset cases.

\* In 1996, the ABCs system included surveillance areas in California (three-county San Francisco Bay area), Connecticut, Georgia (eight-county Atlanta area), Maryland, Minnesota (seven-county Minneapolis-St. Paul area), Oregon (three-county Portland area), and Tennessee (five urban counties). By 2000, surveillance had expanded to include 12 additional counties in the Atlanta area of Georgia, all of Minnesota, seven counties in the Rochester area and eight counties in the Albany area of New York, and six additional urban counties in Tennessee. The five-county Denver area of Colorado was added in 2001, and the state of New Mexico joined in 2004.

† In this report, infants classified as white, black, or of other races include both those classified as Hispanic and non-Hispanic. Conversely, infants classified as Hispanic or non-Hispanic include infants from all racial classifications.

Incidence of early-onset disease remained stable during 1999–2001, averaging 0.47 cases per 1,000 live births (5); incidence declined to 0.32 in 2003 and was stable at 0.34 in 2004 (Figure 1). During 1996–2004, late-onset disease incidence varied little, averaging 0.35 per 1,000 live births, with annual rates ranging from 0.29–0.39 per 1,000 live births (Figure 1). The rate of late-onset disease surpassed that of early-onset disease for the first time in 2003, a trend that continued in 2004. Incidence of both early-onset and late-onset disease varied by site (Table).

**FIGURE 1. Rate\* of early-onset and late-onset† invasive group B streptococcal disease in infants, by year — Active Bacterial Core surveillance system,‡ United States, 1996–2004**



\* Per 1,000 live births.

† Ages 0–6 days for early-onset; ages 7–89 days for late-onset.

‡ Rates for 1996–1999 correspond to surveillance areas participating in 1996. Rates for 2000–2004 correspond to surveillance areas participating in 2000, with the addition of Colorado in 2001.

**TABLE. Number and rate\* of early-onset and late-onset invasive group B streptococcal (GBS) disease in infants, by year and state of surveillance area — Active Bacterial Core surveillance system, United States, 2004**

State	Early-onset disease (ages 0–6 days)		Late-onset disease (ages 7–89 days)	
	No.	Rate	No.	Rate
California	6	0.14	17	0.39
Colorado	8	0.22	17	0.47
Connecticut	8	0.19	11	0.26
Georgia	32	0.43	31	0.42
Maryland	30	0.40	21	0.28
Minnesota	26	0.38	17	0.25
New Mexico	9	0.32	8	0.29
New York	8	0.33	13	0.53
Oregon	4	0.19	8	0.38
Tennessee	24	0.57	27	0.64
<b>Total†</b>	<b>146</b>	<b>0.34</b>	<b>162</b>	<b>0.38</b>

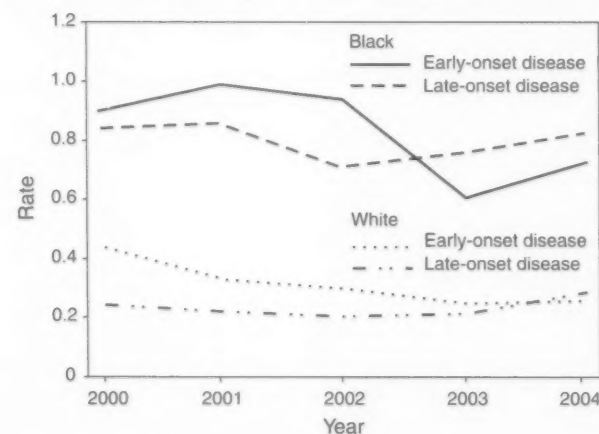
\* Per 1,000 live births.

† To allow for historical comparison, total excludes New Mexico, which began surveillance for neonatal GBS in 2004.

Compared with the pre-prevention era baseline rate in 1993, the absolute difference in early-onset disease incidence between blacks and whites had declined by 68% in 2003 (5). However, racial disparities in the incidence of both early-onset and late-onset GBS disease persist (Figure 2). In 2004, the rates per 1,000 live births for early-onset disease were 0.73 for black infants, 0.26 for white infants, and 0.15 for infants of other races. The rates per 1,000 live births for late-onset disease were 0.83 for blacks, 0.28 for whites, and 0.19 for infants of other races.

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**FIGURE 2. Rate\* of early-onset and late-onset† invasive group B streptococcal disease in infants, by race‡ and year — Active Bacterial Core surveillance system,§ United States, 2000–2004**



\* Per 1,000 live births.

† Ages 0–6 days for early-onset; ages 7–89 days for late-onset.

‡ Infants classified as black or white include both Hispanic and non-Hispanic infants.

§ Rates correspond to surveillance areas participating in 2000, with the addition of Colorado in 2001.

**Editorial Note:** Invasive GBS disease emerged in the 1970s as a leading cause of neonatal morbidity and mortality in the United States. In the mid-1980s, clinical trials demonstrated that administering antimicrobials intrapartum to GBS carriers protected their newborns from early-onset disease. In 1996, CDC, in collaboration with ACOG and AAP, formally recommended intrapartum antimicrobial prophylaxis for women with late antenatal GBS colonization or, as an alternative to screening for colonization, for those women with obstetrical risk factors for transmitting infection (6). A large, population-based cohort study of deliveries during 1998–1999 demonstrated that routine screening and prophylaxis for carriers prevented more cases of early-onset disease than the risk-based method (7). In response to this finding, in 2002, CDC, ACOG, and AAP endorsed revised guidelines that discarded the risk-based approach in favor of universal screening of pregnant women for GBS carriage and administering prophylaxis to carriers (1,2).

Multistate ABCs data indicated a 65% decline in the incidence of early-onset disease from 1993 to 1998, coinciding with increased use of intrapartum prophylaxis, followed by a plateau during 1999–2001 (5,8). Adoption of the 2002 guidelines was expected to result in further reductions in early-onset disease, and a subsequent decline was observed during 2003–2004. Whether the maximum benefit provided by the current prevention strategy has been achieved is unknown. A multistate retrospective cohort study had predicted that universal screening would achieve an incidence of 0.32 per 1,000 live births for early-onset disease, nearly equal to the incidence of 0.34 recorded by ABCs in 2004 (7). However, improved implementation of the screening strategy by clinicians and laboratorians and potential use of a polymerase chain reaction test (approved in 2002) for women whose GBS status is unknown at the time of labor might produce additional gains.

No strategies exist to prevent late-onset disease, although more than half of reported cases of neonatal GBS disease now occur during the late-onset period. In addition, concern continues among health officials that widespread intrapartum antimicrobial use might delay, rather than prevent, GBS disease onset, resulting in increased rates of late-onset disease. No evidence exists to suggest an increase; however, careful monitoring of disease trends remains a priority.

Black infants remain at highest risk for both early-onset and late-onset GBS disease. Although white infants achieved the *Healthy People 2010* target of fewer than 0.5 early-onset cases per 1,000 live births in 1998, the incidence of early-onset disease among black infants remains above the target. This disparity might be associated with less access to prenatal care among black mothers, higher rates of preterm birth (a risk factor for both early-onset and late-onset disease) among black

infants, and higher GBS colonization rates among black mothers (9).

The findings in this report are subject to at least two limitations. First, although incidence trends enable tracking of the effects of prevention measures, these data cannot be directly linked to changes in provider practices. Second, although racial disparities in disease incidence are monitored, the data do not permit evaluation of why these disparities exist.

To characterize provider practices, CDC is collaborating with the EIP Network to abstract a large, population-based sample of maternal labor and delivery records for live births during 2003–2004 in 10 states that participate in ABCs. This effort will 1) provide data on provider adherence to the revised prevention guidelines, 2) identify barriers to adherence, 3) detect missed opportunities for prevention, and 4) increase understanding of racial disparities.

Information for patients, providers, and public health practitioners regarding GBS is available from CDC at <http://www.cdc.gov/groupbstrep>. Brochures explaining GBS testing and prevention are available in both English and Spanish by telephone at 404-639-2215; bulk orders can be placed through the CDC Foundation by telephone at 877-252-1200.

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## Adult Participation in Recommended Levels of Physical Activity — United States, 2001 and 2003

Physical activity is associated with a range of health benefits, and its absence can have harmful effects on health and well being, increasing the risk for coronary heart disease, diabetes, certain cancers, obesity, and hypertension (1). CDC and the American College of Sports Medicine recommend that adults engage in at least 30 minutes of moderate-intensity physical activity on most days, preferably all days, to have a beneficial effect on their health (2). Two *Healthy People 2010* objectives (objectives 22-1 and 22-2) are to increase the proportion of adults who engage in regular moderate or vigorous activity to at least 50% and to decrease the proportion of adults who engage in no leisure-time physical activity to 20% (3). To examine differences from 2001 to 2003 in overall U.S. and state- and territory-specific prevalence estimates of 1) adult participation in the minimum recommended level of physical activity and 2) physical inactivity among adults during lifestyle activities, CDC analyzed data from the Behavioral Risk Factor Surveillance System (BRFSS) surveys for 2001 and 2003. The findings indicated that more than half of U.S. adults continue not to participate in physical activity at a level recommended as beneficial to health. Concerted public health efforts at federal, state, and local levels are needed to improve participation in physical activity.

BRFSS is a population-based, random-digit-dialed telephone survey of the U.S. civilian, noninstitutionalized population aged  $\geq 18$  years in 50 states, the District of Columbia, and certain U.S. territories (Guam, Puerto Rico, and the U.S. Virgin Islands). For this study, CDC analyzed data from

BRFSS surveys for 2001 (214,500 respondents; median response rate: 51.1%; range: 33.3%–81.5%) and 2003 (264,684 respondents; median response rate: 53.2%; range: 34.4%–80.5%).

Since 2001, BRFSS has used six survey questions about physical activity in three domains (household work, transportation, and discretionary/leisure time) to quantify its frequency, duration, and intensity. These questions are asked in all states once every 2 years. Respondents are asked to provide information on overall frequency and duration of time spent in bouts of 10 minutes or more of physical activity of moderate intensity (e.g., brisk walking or gardening) and vigorous intensity (e.g., heavy yard work, running, or aerobics) during a usual week. Moderate-intensity activity is described to respondents as any activity "that causes small increases in breathing and heart rate," and vigorous-intensity activity is described as any activity "that causes large increases in breathing or heart rate." Respondents are classified as active at the minimum recommended level if they report moderate-intensity activity at least 30 minutes per day, 5 or more days per week, or vigorous-intensity activity at least 20 minutes per day, 3 or more days per week. Respondents are classified as inactive if they report no activity of 10 minutes or more per week of moderate or vigorous intensity. For this analysis, prevalence estimates were age-adjusted to the 2000 U.S. standard population. Pairwise comparisons for changes in prevalence from 2001 to 2003 were performed for each state and territory to calculate t-statistics. Differences were considered statistically significant at  $p < 0.05$ . Statistical analysis software was used to account for the complex sampling design.

From 2001 to 2003, the age-adjusted prevalence of adults participating in physical activity at the minimum recommended level remained similar (45.3% in 2001 and 45.9% in 2003) (Table 1). Although an increase in prevalence of physical activity was observed in 41 states and territories from 2001 to 2003, the increase was significant only in nine states (Table 1). The prevalence of such activity decreased in 12 states and territories; the decrease was significant in Florida (45.5% in 2001 versus 41.7% in 2003), North Carolina (42.3% versus 37.6%), West Virginia (48.4% versus 43.6%), and Puerto Rico (43.5% versus 34.5%) (Table 1). Nebraska had the largest percentage-point increase in the prevalence of recommended level of physical activity (+10.3%); Puerto Rico had the largest percentage-point decrease (-9.1%) (Table 1). In 2003, the prevalence of physical activity in 22 states and the District of Columbia was equal to or greater than the target (50%) for the national health objective to increase the prevalence of regular moderate- or vigorous-intensity physical activity (Table 1 and Figure) (3).



**TABLE 1. Age-adjusted percentage of respondents aged ≥18 years who engaged in a level of activity consistent with physical activity recommendations,\* by state/territory — Behavioral Risk Factor Surveillance System, United States, 2001 and 2003**

State/Territory	2001		2003		Percentage-point change		% change
	%	(95% CI) <sup>†</sup>	%	(95% CI)	change	(95% CI)	
Alabama	42.4	(40.3–44.6)	40.4	(38.4–42.4)	-2.0	(-5.0–0.9)	-4.8
Alaska <sup>§</sup>	54.6	(51.6–57.5)	56.7	(53.9–59.5)	2.1	(-1.9–6.2)	3.9
Arizona <sup>§</sup>	51.2	(48.7–53.7)	50.0	(47.3–52.7)	-1.2	(-5.0–2.5)	-2.4
Arkansas	45.4	(43.3–47.5)	45.4	(43.6–47.3)	0	(-2.8–2.8)	0
California	45.8	(44.0–47.7)	46.4	(44.7–48.2)	0.6	(-1.9–3.2)	1.4
Colorado <sup>§</sup>	53.0	(50.4–55.5)	54.5	(52.8–56.3)	1.6	(-1.5–4.6)	2.9
Connecticut <sup>§</sup>	48.6	(47.2–50.0)	52.2	(50.6–53.9)	3.7 <sup>††</sup>	(1.5–5.8)	7.5
Delaware	41.4	(39.3–43.6)	43.8	(41.7–46.0)	2.4	(-0.6–5.4)	5.8
District of Columbia <sup>§</sup>	49.7	(46.9–52.5)	51.4	(48.6–54.1)	1.6	(-2.3–5.6)	3.3
Florida	45.5	(43.7–47.3)	41.7	(39.4–43.9)	-3.9 <sup>††</sup>	(-6.8– -1.0)	-8.5
Georgia	39.2	(37.3–41.1)	41.6	(40.0–43.3)	2.4	(-0.1–4.9)	6.2
Hawaii <sup>§</sup>	50.4	(48.3–52.4)	50.1	(48.2–52.0)	-0.3	(-3.1–2.5)	-0.6
Idaho <sup>§</sup>	54.3	(52.5–56.1)	55.5	(53.8–57.2)	1.2	(-1.3–3.6)	2.1
Illinois	45.6	(43.0–48.1)	43.4	(41.9–45.0)	-2.1	(-5.1–0.9)	-4.6
Indiana	45.9	(44.1–47.6)	46.7	(45.2–48.2)	0.8	(-1.5–3.2)	1.8
Iowa	43.8	(41.8–45.7)	43.9	(42.2–45.7)	0.2	(-2.4–2.8)	0.4
Kansas	44.1	(42.4–45.8)	43.8	(42.1–45.5)	-0.3	(-2.6–2.1)	-0.6
Kentucky	28.9	(27.3–30.6)	33.7	(32.0–35.5)	4.8 <sup>††</sup>	(2.4–7.2)	16.6
Louisiana	35.1	(33.5–36.7)	39.9	(38.3–41.6)	4.9 <sup>††</sup>	(2.6–7.1)	13.9
Maine <sup>§</sup>	50.3	(48.0–52.7)	53.6	(51.2–55.9)	3.2	(-0.1–6.5)	6.4
Maryland	45.0	(43.1–46.9)	48.8	(46.8–50.8)	3.8 <sup>††</sup>	(1.0–6.5)	8.4
Massachusetts <sup>§</sup>	51.4	(50.1–52.8)	52.8	(51.3–54.3)	1.3	(-0.7–3.3)	2.6
Michigan	45.5	(43.7–47.3)	47.5	(45.5–49.5)	2.0	(-0.7–4.7)	4.4
Minnesota	48.5	(46.6–50.3)	49.0	(47.2–50.9)	0.6	(-2.0–3.2)	1.2
Mississippi	37.6	(35.6–39.7)	40.0	(38.3–41.8)	2.4	(-0.3–5.1)	6.5
Missouri	39.9	(37.9–42.0)	45.3	(43.2–47.5)	5.4 <sup>††</sup>	(2.4–8.4)	13.5
Montana <sup>§</sup>	51.5	(49.1–53.9)	58.6	(56.4–60.7)	7.1 <sup>††</sup>	(3.8–10.3)	13.7
Nebraska	34.2	(32.3–36.1)	44.5	(42.9–46.1)	10.3 <sup>††</sup>	(7.8–12.8)	30.2
Nevada <sup>§</sup>	49.8	(46.9–52.7)	51.1	(48.5–53.8)	1.3	(-2.6–5.2)	2.7
New Hampshire <sup>§</sup>	50.7	(48.8–52.5)	54.6	(53.0–56.3)	4.0 <sup>††</sup>	(1.5–6.4)	7.9
New Jersey	44.0	(42.3–45.8)	45.0	(43.8–46.2)	1.0	(-1.1–3.1)	2.3
New Mexico <sup>§</sup>	50.0	(48.1–52.0)	51.2	(49.5–52.8)	1.1	(-1.4–3.7)	2.3
New York	44.8	(42.9–46.8)	44.5	(42.9–46.2)	-0.3	(-2.8–2.2)	-0.7
North Carolina	42.3	(40.4–44.3)	37.6	(36.1–39.3)	-4.7 <sup>††</sup>	(-7.2– -2.1)	-11.0
North Dakota <sup>§</sup>	46.8	(44.6–49.0)	49.7	(47.6–51.7)	2.9	(-0.1–5.9)	6.2
Ohio	46.1	(44.1–48.2)	47.3	(45.3–49.3)	1.1	(-1.7–4.0)	2.5
Oklahoma	38.9	(37.0–40.8)	40.0	(38.7–41.3)	1.1	(-1.2–3.4)	2.9
Oregon <sup>§</sup>	52.9	(50.7–55.2)	54.0	(52.1–55.8)	1.0	(-1.9–3.9)	1.9
Pennsylvania <sup>§</sup>	46.8	(44.8–48.7)	50.1	(48.2–52.0)	3.3 <sup>††</sup>	(0.6–6.0)	7.1
Rhode Island <sup>§</sup>	48.7	(46.8–50.6)	50.5	(48.6–52.4)	1.8	(-0.8–4.5)	3.8
South Carolina	45.3	(43.2–47.4)	46.1	(44.6–47.7)	0.9	(-1.7–3.5)	1.9
South Dakota	44.5	(42.9–46.0)	46.8	(45.1–48.4)	2.3	(0–4.6)	5.2
Tennessee	36.9	(34.7–39.2)	37.5	(35.3–39.9)	0.6	(-2.6–3.8)	1.7
Texas	42.9	(41.5–44.4)	44.1	(42.6–45.6)	1.2	(-0.9–3.3)	2.7
Utah <sup>§</sup>	53.1	(50.9–55.2)	55.5	(53.4–57.5)	2.4	(-0.6–5.3)	4.5
Vermont <sup>§</sup>	55.0	(53.2–56.7)	55.8	(54.1–57.6)	0.9	(-1.6–3.4)	1.6
Virginia	47.6	(45.4–49.7)	49.3	(47.4–51.2)	1.8	(-1.1–4.6)	3.7
Washington <sup>§</sup>	55.5	(53.8–57.3)	54.2	(53.3–55.2)	-1.3	(-3.3–0.7)	-2.3
West Virginia	48.4	(46.4–50.5)	43.6	(41.6–45.6)	-4.8 <sup>††</sup>	(-7.7– -1.9)	-9.9
Wisconsin <sup>§</sup>	52.3	(50.3–54.3)	54.7	(52.8–56.6)	2.3	(-0.4–5.1)	4.5
Wyoming <sup>§</sup>	55.8	(53.8–57.8)	55.3	(53.5–57.0)	-0.5	(-3.2–2.2)	-0.9
Guam	46.3	(42.1–50.6)	47.3	(43.1–51.5)	0.9	(-5.0–6.9)	2.0
Puerto Rico	43.5	(41.5–45.6)	34.5	(32.5–36.4)	-9.1 <sup>††</sup>	(-11.9– -6.2)	-20.8
U.S. Virgin Islands	38.2	(35.7–40.9)	39.8	(36.9–42.8)	1.6	(-2.3–5.5)	4.2
<b>Mean</b>	<b>45.3</b>	<b>(44.9–45.7)</b>	<b>45.9</b>	<b>(45.6–46.3)</b>	<b>0.6<sup>††</sup></b>	<b>(0–1.1)</b>	<b>1.3</b>

\* Reported moderate-intensity activities (i.e., brisk walking, bicycling, vacuuming, gardening, or any activity that causes small increases in breathing or heart rate) for ≥30 minutes per day, ≥5 days per week, or vigorous-intensity activities (i.e., running, aerobics, heavy yard work, or any activity that causes large increases in breathing or heart rate) for ≥20 minutes per day, ≥3 days per week.

<sup>†</sup> Confidence interval.

<sup>§</sup> Equal to or greater than national *Healthy People 2010* target (objective 22–2) in 2003.

<sup>††</sup> Significant difference.

**FIGURE. States and territories that achieved or exceeded the national *Healthy People 2010* target\* for adult participation in recommended levels of physical activity — Behavioral Risk Factor Surveillance System, United States, 2003**



\* To increase the proportion of adults who engage in regular moderate- or vigorous-intensity activity to at least 50% (objective 22-2).

In 2001 and 2003, the overall prevalence of lifestyle inactivity (i.e., no activity of at least 10 minutes per week of moderate or vigorous intensity) was similar (16.0% in 2001 versus 15.6% in 2003) (Table 2). A decrease in prevalence of lifestyle inactivity was observed in 32 states and territories (percentage-point change ranging from 0.1% in Arkansas, North Dakota, and Oregon to 12.9% in Nebraska); the decrease was significant in 14 states (Table 2). An increase in prevalence of inactivity was observed in 19 states and territories; these increases were significant in North Carolina (16.9% in 2001 versus 22.5% in 2003), Washington (6.3% versus 9.9%), West Virginia (14.9% versus 17.4%), Wyoming (8.6% versus 10.6%), and Puerto Rico (24.1% versus 33.9%) (Table 2). Inactivity in 2003 ranged from 7.7% (Minnesota) to 33.9% (Puerto Rico).

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**Editorial Note:** The findings in this report indicate that, in 2003, the majority (54.1%) of U.S. adults did not engage in physical activity at the minimum recommended level and that the prevalence of meeting recommend levels of physical activity was similar in 2001 and 2003 (45.3% and 45.9%, respectively). From 2001 to 2003, the prevalence of adults participating in recommended levels of physical activity increased significantly in nine states and decreased significantly in three states and Puerto Rico. The remainder of the states had no statistically significant differences. In addition, the

prevalence of lifestyle physical inactivity was similar for the two years (16.0% in 2001 versus 15.6% in 2003).

Although 2 years is a relatively short period for which to examine state- and territory-specific trends in prevalence of physical activity, this study is valuable as the first national report using 2 years of data to determine whether U.S. adults engaged in the recommended levels of physical activity in any of three domains: household work, transportation, and discretionary/leisure time. Earlier reports examined trends in one domain only (discretionary/leisure time) (4–6).

The findings in this report are subject to at least three limitations. First, BRFSS data are based on self-reports and thus are subject to social desirability and recall biases. Second, the survey misclassifies a small proportion of the sample because the instrument is designed to measure only those who meet the recommendation in one of two intensities, moderate or vigorous, and misses those who would be deemed adequately active when the intensities were combined (e.g., being moderately active 3 days a week and vigorously active 2 days a week). Finally, the response rates were low in 2001 (51.1%) and 2003 (53.2%), indicating possible nonresponse bias.

Promotion of physical activity is integral to national health promotion policies. Physical activity levels can be increased by incorporating physical activity into daily routines, such as being active in housework, walking and biking for transportation, participating in worksite physical activity programs, and pursuing physically active hobbies and recreational activities. *The Guide to Community Preventive Services: Physical Activity* highlights recommended evidence-based strategies for successful physical activity promotion in these settings (7). CDC coordinates multiple programs at state and local levels, including Steps to a HealthierUS, that aim to prevent or control obesity, diabetes, and cardiovascular disease; physical activity is an important component of such programs. Public health agencies should continue to increase and promote opportunities for physical activity among adults in communities and workplaces.

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**TABLE 2. Age-adjusted percentage of respondents aged  $\geq 18$  years categorized as physically inactive,\* by state/territory — Behavioral Risk Factor Surveillance System, United States, 2001 and 2003**

State/Territory	2001		2003		Percentage-point		% change
	%	(95% CI) <sup>†</sup>	%	(95% CI)	change	(95% CI)	
Alabama	16.5	(15.0–18.0)	17.0	(15.6–18.5)	0.6	(-1.5–2.6)	3.3
Alaska	10.0	(8.4–11.9)	12.1	(10.4–14.0)	2.1	(-0.4–4.6)	20.7
Arizona	12.2	(10.6–13.9)	14.5	(12.6–16.7)	2.3	(-0.3–4.9)	19.1
Arkansas	15.6	(14.2–17.2)	15.5	(14.3–16.8)	-0.1	(-2.0–1.9)	-0.6
California	13.2	(11.9–14.6)	12.5	(11.3–13.8)	-0.7	(-2.5–1.2)	-5.1
Colorado	10.0	(8.5–11.7)	10.0	(9.0–11.1)	0	(-1.9–1.9)	-0.1
Connecticut	14.6	(13.6–15.7)	13.3	(12.2–14.5)	-1.3	(-2.8–0.2)	-8.8
Delaware	16.4	(14.9–18.1)	16.4	(14.9–18.1)	0	(-2.2–2.2)	0
District of Columbia	16.3	(14.3–18.6)	16.3	(14.4–18.5)	0	(-3.0–3.0)	0
Florida	18.4	(17.1–19.9)	17.9	(16.3–19.7)	-0.5	(-2.7–1.8)	-2.6
Georgia	22.1	(20.6–23.7)	18.3	(17.1–19.6)	-3.8 <sup>§</sup>	(-5.8– -1.9)	-17.3
Hawaii	13.3	(12.0–14.7)	13.5	(12.3–14.9)	0.2	(-1.6–2.1)	1.9
Idaho	10.2	(9.1–11.4)	9.9	(9.0–10.9)	-0.3	(-1.8–1.2)	-2.9
Illinois	17.8	(15.9–19.9)	16.9	(15.8–18.2)	-0.9	(-3.2–1.4)	-5.0
Indiana	13.6	(12.5–14.8)	13.9	(12.9–14.9)	0.3	(-1.2–1.9)	2.3
Iowa	13.7	(12.5–15.1)	13.8	(12.7–15.0)	0.1	(-1.6–1.8)	0.5
Kansas	19.0	(17.7–20.4)	16.7	(15.5–18.0)	-2.3 <sup>§</sup>	(-4.1– -0.5)	-12.2
Kentucky	33.2	(31.6–34.8)	26.2	(24.8–27.8)	-6.9 <sup>§</sup>	(-9.1– -4.7)	-20.8
Louisiana	29.9	(28.4–31.3)	22.6	(21.3–23.9)	-7.3 <sup>§</sup>	(-9.3– -5.3)	-24.4
Maine	13.4	(11.9–14.9)	12.9	(11.5–14.5)	-0.5	(-2.6–1.6)	-3.6
Maryland	15.5	(14.1–16.9)	13.7	(12.4–15.2)	-1.7	(-3.7–0.3)	-11.3
Massachusetts	14.1	(13.2–15.0)	13.4	(12.5–14.4)	-0.7	(-2.0–0.7)	-4.7
Michigan	14.4	(13.1–15.7)	12.4	(11.2–13.7)	-2.0 <sup>§</sup>	(-3.8– -0.2)	-13.8
Minnesota	9.2	(8.1–10.3)	7.7	(6.8–8.6)	-1.5 <sup>§</sup>	(-2.9– -0.1)	-16.2
Mississippi	23.0	(21.4–24.8)	20.7	(19.3–22.1)	-2.4 <sup>§</sup>	(-4.6– -0.2)	-10.4
Missouri	16.8	(15.2–18.4)	13.8	(12.5–15.3)	-2.9 <sup>§</sup>	(-5.0– -0.8)	-17.4
Montana	13.8	(12.4–15.4)	8.9	(7.9–10.1)	-4.9 <sup>§</sup>	(-6.8– -3.0)	-35.4
Nebraska	26.7	(25.0–28.6)	13.9	(12.8–15.0)	-12.9 <sup>§</sup>	(-15.0– -10.8)	-48.2
Nevada	12.9	(11.1–14.9)	15.2	(13.3–17.3)	2.3	(-0.4–5.1)	18.1
New Hampshire	11.7	(10.7–12.9)	10.6	(9.7–11.6)	-1.1	(-2.6–0.4)	-9.6
New Jersey	16.8	(15.5–18.1)	17.3	(16.4–18.2)	0.5	(-1.1–2.0)	2.8
New Mexico	13.6	(12.4–15.0)	13.1	(12.0–14.2)	-0.5	(-2.3–1.2)	-4.0
New York	19.0	(17.5–20.6)	19.1	(17.8–20.6)	0.1	(-2.0–2.2)	0.7
North Carolina	16.9	(15.4–18.4)	22.5	(21.2–23.9)	5.6 <sup>§</sup>	(3.6–7.6)	33.2
North Dakota	11.3	(10.0–12.8)	11.2	(10.1–12.4)	-0.1	(-1.9–1.7)	-0.8
Ohio	15.8	(14.2–17.5)	14.3	(13.0–15.7)	-1.5	(-3.6–0.7)	-9.3
Oklahoma	21.3	(19.7–23.0)	18.7	(17.7–19.7)	-2.6 <sup>§</sup>	(-4.7– -0.6)	-12.2
Oregon	11.7	(10.3–13.2)	11.5	(10.4–12.7)	-0.1	(-2.0–1.7)	-1.3
Pennsylvania	13.3	(12.1–14.6)	12.0	(10.9–13.3)	-1.3	(-3.0–0.5)	-9.6
Rhode Island	15.2	(13.9–16.6)	14.4	(13.2–15.8)	-0.8	(-2.7–1.0)	-5.4
South Carolina	16.0	(14.5–17.5)	15.0	(13.9–16.1)	-1.0	(-2.9–0.9)	-6.3
South Dakota	17.9	(16.8–19.2)	14.5	(13.5–15.6)	-3.5 <sup>§</sup>	(-5.0– -1.9)	-19.3
Tennessee	26.0	(24.3–27.9)	21.2	(19.4–23.0)	-4.9 <sup>§</sup>	(-7.4– -2.3)	-18.7
Texas	16.7	(15.6–17.9)	18.3	(17.1–19.5)	1.6	(-0.1–3.2)	9.5
Utah	8.8	(7.7–10.1)	9.6	(8.4–10.9)	0.8	(-0.9–2.5)	8.8
Vermont	11.5	(10.5–12.6)	9.6	(8.7–10.5)	-1.9 <sup>§</sup>	(-3.3– -0.5)	-16.7
Virginia	13.3	(11.9–14.8)	14.0	(12.8–15.2)	0.7	(-1.2–2.5)	5.1
Washington	6.3	(5.5–7.2)	9.9	(9.3–10.5)	3.6 <sup>§</sup>	(2.6–4.6)	57.0
West Virginia	14.9	(13.6–16.3)	17.4	(16.0–18.8)	2.5 <sup>§</sup>	(0.5–4.4)	16.6
Wisconsin	8.4	(7.3–9.5)	8.6	(7.7–9.7)	0.3	(-1.2–1.7)	3.0
Wyoming	8.6	(7.6–9.7)	10.6	(9.6–11.7)	2.1 <sup>§</sup>	(0.6–3.5)	23.9
Guam	19.1	(15.8–22.8)	18.6	(15.3–22.4)	-0.5	(-5.5–4.5)	-2.6
Puerto Rico	24.1	(22.5–25.9)	33.9	(32.1–35.7)	9.7 <sup>§</sup>	(7.3–12.2)	40.3
U.S. Virgin Islands	24.5	(22.2–26.9)	25.4	(22.9–28.2)	0.9	(-2.6–4.5)	3.8
<b>Mean</b>	<b>16.0</b>	<b>(15.8–16.3)</b>	<b>15.6</b>	<b>(15.4–15.9)</b>	<b>-0.4<sup>§</sup></b>	<b>(-0.8–0)</b>	<b>-2.6</b>

\* No bouts of  $\geq 10$  minutes of moderate- or vigorous-intensity activity (including household work, transportation, or discretionary/leisure-time activity).<sup>†</sup> Confidence interval.<sup>§</sup> Significant difference.

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### Notice to Readers

#### Licensure of a Combined Live Attenuated Measles, Mumps, Rubella, and Varicella Vaccine

On September 6, 2005, the Food and Drug Administration licensed a combined live attenuated measles, mumps, rubella, and varicella (MMRV) vaccine (ProQuad®, Merck & Co., Inc., Whitehouse Station, New Jersey) for use in children aged 12 months–12 years. The attenuated measles, mumps, and rubella vaccine viruses in ProQuad are identical and of equal titer to those in the measles, mumps, and rubella (MMR) vaccine, MMRII® (Merck). The titer of Oka/Merck varicella-zoster virus is higher in MMRV vaccine than in single antigen varicella vaccine, VARIVAX® (Merck), a minimum of 3.13 log<sub>10</sub> plaque-forming units (pfu) versus 1,350 pfu (approximately 1.13 log<sub>10</sub>), respectively.

Advisory Committee on Immunization Practices (ACIP) current recommendations are that children aged 12 months–12 years receive 2 doses of MMR vaccine at least 1 month apart and 1 dose of varicella vaccine (1).<sup>\*</sup> MMRV vaccine can decrease the number of injections received by children when all of the component antigens are indicated for administration. One dose of MMRV vaccine should be administered on or after the first birthday, preferably as soon as the child becomes eligible for vaccination (2).

MMRV vaccine was licensed on the basis of equivalence of immunogenicity of the antigenic components rather than clinical efficacy; the efficacy of the individual components of MMRV has been established previously (3,4). Clinical studies of 7,484 healthy children aged 12–23 months (of whom 5,446 received MMRV vaccine) indicated that those who received 1 dose of MMRV vaccine developed levels of antibody to measles, mumps, rubella, and varicella similar to those of children who received 1 dose of MMR and 1 dose of varicella vaccines concomitantly at separate injection sites. The respective prevalences of detectable antibody (i.e., positive serologic

response) using defined cutoff levels among MMRV vaccine recipients were 97.4% (95% confidence interval [CI] = 96.9%–97.9%) for measles ( $\geq 255$  mIU/mL when compared with the WHO II [66/202] reference immunoglobulin for measles), 95.8% (CI = 95.1%–96.4%) for mumps<sup>†</sup> ( $\geq 10$  enzyme-linked immunosorbent assay [ELISA] units/mL), 98.5% (CI = 98.1%–98.8%) for rubella ( $\geq 10$  IU rubella antibody/mL when compared with the WHO international reference serum for rubella), and 91.2% (CI = 90.3%–92.0%) for varicella ( $\geq 5$  gpELISA units/mL [a response rate highly correlated with long-term protection]) (5).

A subgroup of the children (n = 1,035) who received 1 dose of MMRV vaccine received a second dose of MMRV vaccine approximately 3 months after the first dose. Positive serologic response after 2 doses was 99.4% (CI = 98.6%–99.8%) for measles, 99.9% (CI = 99.4%–100%) for mumps, 98.3% (CI = 97.2%–99.0%) for rubella, and 99.4% (CI = 98.7%–99.8%) for varicella among the children who were seronegative before receipt of the first dose of MMRV vaccine (5). The geometric mean titers (GMTs) after the second dose of MMRV vaccine increased approximately two-fold each for measles, mumps, and rubella and 41-fold for varicella.

To assess the immunogenicity of a second dose of MMRV vaccine at ages 4–6 years, a trial was conducted among 799 healthy children in this age group who had received 1 dose of MMR and 1 dose of varicella vaccine at age  $\geq 12$  months and at least 1 month before enrollment in the study (5). In that study, subjects were administered either 1) MMRV vaccine and placebo (n = 399), 2) MMR and varicella vaccines (n = 195), or 3) MMR vaccine and placebo (n = 205) concomitantly at separate sites. Recipients of MMRV vaccine had seropositivity rates of 99.2% (CI = 97.6%–99.8%) for measles, 99.5% (CI = 98.0%–99.9%) for mumps, 100% (CI = 99.0%–100.0%) for rubella, and 98.9% (CI = 97.2%–99.7%) for varicella and had postvaccination GMT increases, compared with prevaccination GMTs, of 1.2 for measles, 2.4 for mumps, 3.0 for rubella, and 12.0 for varicella.

The postvaccination GMTs for measles, mumps, rubella, and varicella among MMRV vaccine recipients were comparable to that of the group vaccinated with MMR and varicella vaccines. Likewise, the GMTs were similar for measles, mumps, and rubella among the MMRV vaccine recipients and the group vaccinated with MMR vaccine and placebo (5).

Concomitant administration of MMRV with other vaccines was assessed among 1,913 healthy children aged 12–15 months. A group concomitantly administered at separate sites

<sup>\*</sup> During a varicella outbreak, a second dose of varicella vaccine may be administered to persons who previously received 1 dose of varicella vaccine to provide additional protection from varicella disease, if the appropriate vaccination interval (3 months for persons aged 12 months–12 years) has elapsed since the first dose.

<sup>†</sup> Two separate assays, one based on wild type and one on vaccine type strains, were used to assess mumps immune response rates; the data presented here are the lower values obtained; more detailed information is contained in the package insert.



MMRV vaccine, diphtheria and tetanus toxoids and acellular pertussis adsorbed (DTaP) vaccine, *Haemophilus influenzae* type b conjugate (meningococcal protein conjugate) (Hib) vaccine, and hepatitis B (recombinant) (HepB) vaccine ( $n = 949$ ) was compared with 1) a group receiving MMRV at the initial visit, followed by DTaP, Hib, and HepB vaccines administered concomitantly 6 weeks later ( $n = 485$ ), and 2) a group receiving MMR and varicella vaccines concomitantly ( $n = 479$ ) (5). Seroconversion rates and antibody titers were comparable for the measles, mumps, rubella, and varicella components for all three groups; the Hib and HepB seroconversion rates for the two groups that received those vaccines also were comparable.

The safety profile of MMRV vaccine without concomitant administration of other vaccines was studied in healthy children aged 12–23 months who were monitored for 42 days post-vaccination. Rates of most local and systemic adverse events for children vaccinated with MMRV ( $n = 4,497$  recipients) were comparable to rates for MMR and varicella vaccines administered concomitantly ( $n = 2,038$  recipients). Two systemic vaccine-related adverse events were reported at significantly greater rates among MMRV vaccine recipients; fever of  $\geq 102^{\circ}\text{F}$  ( $\geq 38.9^{\circ}\text{C}$ ) was observed in 21.5% of MMRV recipients versus 14.9% of MMR and varicella vaccine recipients, and measles-like rash was observed in 3.0% of recipients of MMRV vaccine recipients versus 2.1% of those administered MMR and varicella vaccines (5). Both of these adverse events were reported to occur more frequently during day 5 through day 12 postvaccination and typically resolved spontaneously without sequelae. Rash at the injection site was the only local vaccine-related adverse event reported more commonly among MMRV recipients (2.3%) than among MMR and varicella vaccine recipients (1.5%). Among 2,108 healthy children aged 12–23 months who received MMRV vaccine and were followed for up to 1 year, two cases of herpes zoster were reported; both cases were unremarkable and resolved without sequelae. In two studies of 1,035 vaccinees aged 12–23 months who received 2 doses of MMRV vaccine, the rates of adverse events after the second dose were generally similar or lower than those observed with the first dose (5).

## Indications and Usage

1. MMRV vaccine is indicated for simultaneous vaccination against measles, mumps, rubella, and varicella among children aged 12 months–12 years; MMRV is not indicated for persons outside of this age group. Use of licensed combination vaccines, such as MMRV vaccine, is preferred over separate injection of equivalent component vaccines (6). MMRV

vaccine can reduce the number of injections when administered to children aged 12 months–12 years for whom 1) the first dose of MMR and varicella vaccines is indicated and 2) the second dose of MMR and either the first or second dose (e.g., during a varicella outbreak) of varicella vaccine is indicated. MMRV vaccine is administered subcutaneously as a single 0.5-mL dose.

2. MMRV vaccine may be used whenever any components of the combination vaccine are indicated and the other components are not contraindicated. Using combination vaccines containing some antigens not indicated at the time of administration might be justified when 1) products that contain only the needed antigens are not readily available or would result in extra injections and 2) potential benefits to the child outweigh the risk of adverse events associated with the extra antigen(s).

3. At least 1 month should elapse between a dose of measles-containing vaccine, such as MMR vaccine, and a dose of MMRV vaccine. Should a second dose of varicella vaccine be indicated for children aged 12 months–12 years (e.g., during a varicella outbreak), at least 3 months should elapse between administration of any 2 doses of varicella-containing vaccine, including single antigen varicella vaccine or MMRV vaccine.

4. Simultaneous administration of the most widely used live and inactivated vaccines have produced seroconversion rates and rates of adverse reactions similar to those observed when the vaccines are administered separately (7). Therefore, MMRV may be administered simultaneously with other vaccines recommended at ages 12 month–12 years, although data are absent or limited for the concomitant use of MMRV vaccine with DTaP, inactivated polio, pneumococcal conjugate, influenza, and hepatitis A vaccines.

5. MMRV vaccine must be stored frozen at an average temperature  $\leq 5^{\circ}\text{F}$  ( $\leq -15^{\circ}\text{C}$ ) for up to 18 months. Adequacy of the freezer should be checked before obtaining or storing MMRV vaccine. Unlike single antigen varicella vaccine, MMRV vaccine cannot be stored at refrigerator temperature. Once reconstituted, the vaccine should be used immediately to minimize loss of potency and should be discarded if not used within 30 minutes. The diluent should be stored separately at room temperature or in the refrigerator.

6. MMRV vaccine should not be administered as a substitute for the component vaccines when vaccinating children with human immunodeficiency virus (HIV) infection until revised recommendations can be considered for the use of MMRV vaccine in this population; current recommendations for vaccination of HIV-infected children with MMR and varicella vaccines are available (3,8).

ACIP recommendations for MMR and varicella vaccines have been previously published (3,4,8,9) and are applicable for the respective components of MMRV vaccine. Additional information regarding ProQuad is available from the package insert (5) provided by the manufacturer (<http://www.merck.com>).

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#### Notice to Readers

##### National Drunk and Drugged Driving Prevention Month — December 2005

December is National Drunk and Drugged Driving Prevention Month (3D Month). During 2004, alcohol-related motor-vehicle crashes resulted in 16,694 deaths in the United States, accounting for 39% of all traffic fatalities. This amounts to one alcohol-related death every 31 minutes (1). Moreover, approximately 21% of all crashes that killed children aged  $\leq 14$  years in 2004 were alcohol-related (1), and nearly two thirds of children killed in alcohol-related crashes were in the same car as the drinking driver (2).

To decrease alcohol-related traffic fatalities, communities must implement and enforce strategies that are known to be effective, such as sobriety checkpoints, 0.08% blood alcohol concentration laws, minimum legal drinking age laws, and “zero tolerance” laws for young drivers. Information about such interventions is available at <http://www.thecommunityguide.org/mvoi>. Information about National 3D Month is available at <http://www.nhtsa.dot.gov> and <http://www.stopimpaireddriving.org/holidayplanner2005/planner/index.cfm>.

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#### Notice to Readers

##### MMWR Subscriber Survey

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##### Errata: Vol. 54, No. 31

In the Final 2004 Reports of Notifiable Diseases, multiple errors occurred in Table 2, titled “Reported cases of notifiable diseases, by geographic division and area — United States, 2004.” The corrected Table 2, with corrections highlighted, is available at <http://www.cdc.gov/mmwr/preview/mmwr.html/mm5447a7.htm>.

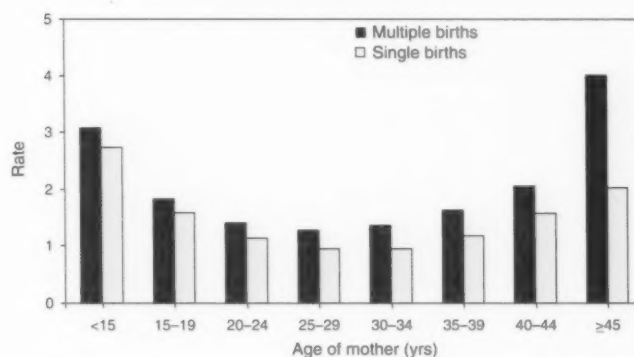
##### Errata: Vol 54, No. SS-6

In the *MMWR Surveillance Summary*, “Contraceptive Use — United States and Territories, Behavioral Risk Factor Surveillance System, 2002,” two errors occurred in Table 1. On page 11, in the column labeled “Oral contraceptives (pill),” the prevalence for Connecticut should be 35.8. On page 13, in the column labeled “Rhythm,” the prevalence for Alabama should be 2.1.

## QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

### Rate\* of Very Low Birthweight,<sup>†</sup> by Age of Mother and Multiple-Birth Status — United States, 2003

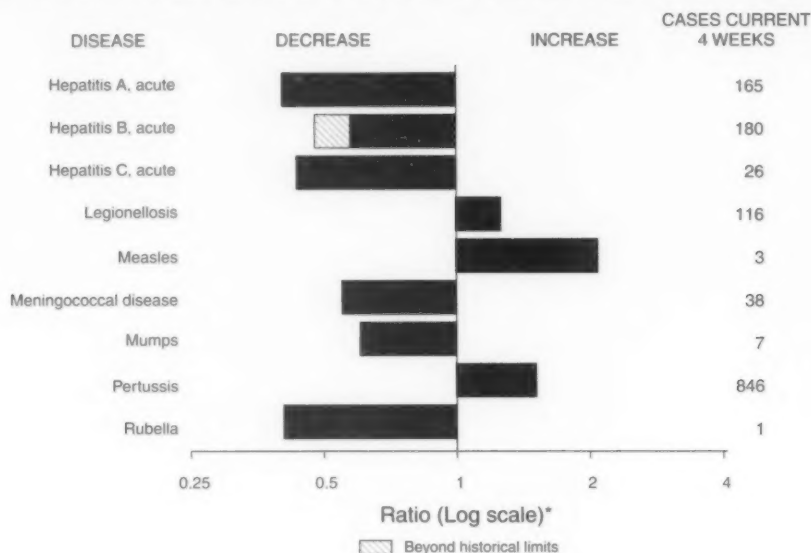


\* Per 100 live births.

<sup>†</sup> Defined as <1,500 g (<3 lbs, 4 oz).

The risk of giving birth to a very low birthweight infant is higher for both younger and older mothers. Much of the added risk among older women is attributable to higher multiple birth rates. On average, infants born in multiple births are smaller than infants born in single births.

**SOURCES:** National Vital Statistics System, 2003 natality file; Martin JA, Hamilton BE, Sutton PD, et al. Births: final data for 2003. Natl Vital Stat Rep 2005;54(2). Available at [http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54\\_02.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_02.pdf).

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals November 26, 2005, with historical data**

\* Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

**TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending November 26, 2005 (47th Week)\***

Disease	Cum. 2005	Cum. 2004	Disease	Cum. 2005	Cum. 2004
Anthrax	—	—	Hemolytic uremic syndrome, postdiarrheal†	157	161
Botulism:			HIV infection, pediatric†§	181	339
foodborne	13	9	Influenza-associated pediatric mortality†**	45	—
infant	75	78	Measles	64††	26§§
other (wound & unspecified)	25	14	Mumps	237	213
Brucellosis	97	94	Plague	3	2
Chancroid	25	25	Poliomyelitis, paralytic	1	—
Cholera	6	4	Psittacosis†	20	11
Cyclosporiasis†	720	201	Q fever†	129	57
Diphtheria	—	—	Rabies, human	2	6
Domestic arboviral diseases			Rubella	17	9
(neuroinvasive & non-neuroinvasive):			Rubella, congenital syndrome	1	—
California serogroup†§	64	116	SARS† **	—	—
eastern equine†§	21	5	Smallpox†	—	—
Powassan†§	—	1	<i>Staphylococcus aureus</i> :		
St. Louis†§	8	13	Vancomycin-intermediate (VISA)†	1	—
western equine†§	—	—	Vancomycin-resistant (VRSA)†	—	1
Ehrlichiosis:			Streptococcal toxic-shock syndrome†	97	119
human granulocytic (HGE)†	558	390	Tetanus	18	22
human monocytic (HME)†	425	288	Toxic-shock syndrome	86	82
human, other and unspecified†	80	66	Trichinellosis†¶	16	2
Hansen disease†	69	94	Tularemia†	134	105
Hantavirus pulmonary syndrome†	22	21	Yellow fever	—	—

—: No reported cases.

\* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Not notifiable in all states.

§ Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

¶ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update June 26, 2005.

\*\* Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases. Of the 45 cases reported, one was reported since October 2, 2005 (40th Week).

†† Of 64 cases reported, 53 were indigenous and 11 were imported from another country.

§§ Of 26 cases reported, nine were indigenous and 17 were imported from another country.

¶¶ Formerly Trichinosis.



TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	AIDS		Chlamydia†		Coccidioidomycosis		Cryptosporidiosis	
	Cum. 2005‡	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	20,405	35,513	822,513	826,334	4,281	5,398	6,838	3,294
NEW ENGLAND	778	1,129	28,633	26,951	—	—	312	161
Maine	11	23	2,003	1,880	N	N	25	18
N.H.	20	39	1,632	1,557	—	—	33	30
Vt.‡	4	14	846	1,016	—	—	35	23
Mass.	368	425	12,984	12,023	—	—	130	59
R.I.	68	114	2,838	3,064	—	—	13	4
Conn.	307	514	8,330	7,411	N	N	76	27
MID. ATLANTIC	4,352	7,866	103,783	101,690	—	—	3,121	537
Upstate N.Y.	800	855	20,906	20,535	N	N	2,691	170
N.Y. City	2,327	4,452	33,440	31,157	—	—	121	129
N.J.	574	1,302	15,984	15,776	N	N	63	43
Pa.	651	1,257	33,453	34,222	N	N	246	195
E.N. CENTRAL	1,938	2,818	135,862	145,700	11	13	1,404	982
Ohio	312	541	36,579	35,948	N	N	751	211
Ind.	236	327	18,137	16,709	N	N	77	70
Ill.	983	1,274	40,565	43,027	—	—	134	150
Mich.	322	535	24,184	32,583	11	13	101	144
Wis.	85	141	16,397	17,433	N	N	341	407
W.N. CENTRAL	463	720	50,663	51,460	5	6	547	376
Minn.	123	190	9,702	10,626	3	N	131	123
Iowa	50	57	6,461	6,271	N	N	105	81
Mo.	198	297	20,016	19,140	1	3	244	66
N. Dak.	5	16	1,066	1,616	N	N	1	12
S. Dak.	10	8	2,496	2,294	—	—	24	37
Nebr.‡	18	44	4,559	4,768	1	3	9	27
Kans.	59	108	6,363	6,745	N	N	33	30
S. ATLANTIC	6,473	11,141	156,225	154,760	2	—	663	490
Del.	100	136	3,068	2,658	N	N	5	—
Md.	812	1,293	16,599	17,350	2	—	34	22
D.C.	467	785	3,415	3,208	—	—	15	15
Va.‡	307	565	18,495	19,545	—	—	60	57
W. Va.	36	71	2,455	2,517	N	N	14	6
N.C.	531	1,015	28,137	25,924	N	N	84	75
S.C.‡	386	643	18,983	17,005	—	—	17	22
Ga.	1,103	1,410	26,997	26,553	—	—	111	171
Fla.	2,731	5,223	38,076	38,000	N	N	323	122
E.S. CENTRAL	1,093	1,647	62,070	54,513	—	5	202	134
Ky.	135	212	7,724	5,643	N	N	138	43
Tenn.‡	434	684	21,377	20,109	N	N	40	41
Ala.‡	295	382	14,324	12,127	—	—	20	22
Miss.	229	369	18,645	16,634	—	5	4	28
W.S. CENTRAL	2,206	4,223	94,438	99,841	1	3	180	127
Ark.	72	183	7,798	7,210	—	1	6	15
La.	436	799	14,484	20,066	1	2	81	5
Okla.	167	169	9,570	9,494	N	N	41	22
Tex.‡	1,531	3,072	62,586	63,071	N	N	52	85
MOUNTAIN	789	1,242	46,338	50,858	2,944	3,396	124	160
Mont.	4	5	2,019	2,230	N	N	18	34
Idaho‡	9	17	2,253	2,555	N	N	15	27
Wyo.	2	14	1,028	973	3	2	3	4
Colo.	163	278	11,712	13,047	N	N	48	55
N. Mex.	72	164	5,135	8,088	14	21	8	18
Ariz.	329	454	15,034	14,791	2,889	3,292	9	15
Utah	33	62	3,831	3,399	6	23	14	5
Nev.‡	177	248	5,326	5,775	32	58	9	2
PACIFIC	2,313	4,727	144,501	140,561	1,318	1,975	285	327
Wash.	229	348	16,762	15,872	N	N	43	42
Oreg.‡	136	249	8,088	7,598	—	—	65	29
Calif.	1,874	3,981	113,024	108,753	1,318	1,975	173	254
Alaska	14	43	3,547	3,481	—	—	3	—
Hawaii	60	106	3,080	4,857	—	—	1	2
Guam	1	1	—	803	—	—	—	—
P.R.	537	635	3,413	3,141	N	N	N	N
V.I.	10	18	196	308	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	—	—	—	—	—	—

N: Not notifiable. U: Unavailable. —: No reported cases.

C.N.M.I.: Commonwealth of Northern Mariana Islands.

\* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Chlamydia refers to genital infections caused by *C. trachomatis*.

‡ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update June 26, 2005.

§ Contains data reported through National Electronic Disease Surveillance System (NEDSS). Due to a technical problem with hardware, data from these states are not included this week.

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Escherichia coli, Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped					
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	2,250	2,333	326	278	296	179	16,194	17,861	284,975	293,325
NEW ENGLAND	153	154	53	42	23	14	1,494	1,617	5,170	6,155
Maine	14	14	11	—	—	—	190	137	122	198
N.H.	12	21	2	5	—	—	48	44	160	116
Vt.	13	13	4	—	—	—	166	156	54	82
Mass.	62	69	12	13	23	14	636	727	2,287	2,801
R.I.	7	9	—	1	—	—	107	107	384	762
Conn.	45	28	24	23	—	—	347	446	2,163	2,196
MID. ATLANTIC	287	279	37	61	30	34	2,995	3,687	30,174	32,905
Upstate N.Y.	129	119	19	42	9	17	1,100	1,281	6,272	6,683
N.Y. City	14	35	—	—	—	—	760	993	9,067	9,982
N.J.	49	56	3	6	11	6	362	461	4,855	6,115
Pa.	95	69	15	13	10	11	773	952	9,980	10,125
E.N. CENTRAL	432	446	33	46	25	32	2,572	3,002	55,517	61,993
Ohio	141	92	6	9	16	18	734	725	17,201	18,831
Ind.	62	48	—	—	—	—	N	N	7,265	6,111
Ill.	46	101	1	7	1	8	578	756	16,475	18,790
Mich.	74	81	2	11	6	6	698	663	9,857	13,717
Wis.	109	124	24	19	2	—	562	858	4,719	4,544
W.N. CENTRAL	395	463	38	38	59	21	1,968	1,967	16,266	15,698
Minn.	125	105	21	15	32	4	898	744	2,759	2,642
Iowa	92	117	—	—	—	—	248	278	1,429	1,130
Mo.	73	93	11	17	13	6	457	521	8,416	8,281
N. Dak.	7	14	—	—	1	7	15	22	74	99
S. Dak.	26	31	3	2	—	—	85	58	313	265
Nebr.	30	62	3	4	4	—	85	139	1,032	996
Kans.	42	41	—	—	9	4	180	205	2,243	2,285
S. ATLANTIC	185	165	78	33	110	54	2,310	2,695	68,777	70,529
Del.	7	3	N	N	N	N	52	44	806	803
Md.	30	21	30	6	11	3	184	135	6,358	7,349
D.C.	1	1	—	—	—	—	51	66	1,920	2,369
Va.	39	33	27	17	21	—	478	471	6,867	7,789
W. Va.	3	2	—	—	1	—	42	41	664	818
N.C.	—	—	—	—	60	44	N	N	13,526	13,838
S.C.	6	12	1	—	1	—	94	109	8,470	8,457
Ga.	28	22	16	7	—	—	528	828	12,589	12,704
Fla.	71	71	4	3	16	7	881	1,001	17,577	16,402
E.S. CENTRAL	130	100	10	5	31	15	385	381	25,023	23,901
Ky.	47	25	7	1	20	9	N	N	2,715	2,475
Tenn.	47	38	2	2	11	6	195	205	7,957	7,633
Ala.	29	26	—	—	—	—	190	176	8,105	7,431
Miss.	7	11	1	2	—	—	—	—	6,246	6,362
W.S. CENTRAL	48	82	14	3	8	9	293	309	38,483	39,160
Ark.	8	17	—	—	—	—	77	119	4,085	3,810
La.	4	4	11	1	3	3	54	49	8,147	9,578
Okla.	22	18	2	—	1	—	162	141	3,854	4,047
Tex.	14	43	1	2	4	6	N	N	22,397	21,725
MOUNTAIN	218	232	55	49	10	—	1,360	1,395	9,864	10,826
Mont.	16	16	—	—	—	—	67	76	122	76
Idaho	27	53	13	13	7	—	142	181	95	88
Wyo.	6	9	2	5	—	—	26	23	72	58
Colo.	65	51	3	1	1	—	495	480	2,569	2,747
N. Mex.	12	10	9	9	—	—	76	68	985	1,145
Ariz.	44	23	N	N	N	N	138	158	3,342	3,552
Utah	38	43	26	20	—	—	367	294	627	520
Nev.	10	27	2	1	2	—	49	115	2,052	2,640
PACIFIC	402	412	8	1	—	—	2,817	2,808	35,701	32,158
Wash.	104	137	—	—	—	—	319	348	3,326	2,486
Oreg.	144	68	8	1	—	—	355	411	1,415	1,148
Calif.	129	196	—	—	—	—	1,986	1,885	29,891	26,890
Alaska	12	1	—	—	—	—	98	91	487	517
Hawaii	13	10	—	—	—	—	59	73	582	1,117
Guam	N	N	—	—	—	—	—	4	—	125
P.R.	2	2	—	—	—	—	186	263	316	225
V.I.	—	—	—	—	—	—	—	—	45	82
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 \* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	<i>Haemophilus influenzae</i> , invasive							
	All ages		Age <5 years					
	All serotypes		Serotype b		Non-serotype b		Unknown serotype	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,855	1,796	4	14	98	109	179	159
NEW ENGLAND	147	169	—	1	10	10	5	2
Maine	6	12	—	—	—	—	1	—
N.H.	8	19	—	—	—	2	—	1
Vt.	9	8	—	—	—	—	2	1
Mass.	72	76	—	1	3	4	1	—
R.I.	7	6	—	—	2	1	—	—
Conn.	45	48	—	—	5	3	1	—
MID. ATLANTIC	380	378	—	2	1	5	38	36
Upstate N.Y.	108	118	—	2	—	5	8	5
N.Y. City	69	81	—	—	—	—	11	15
N.J.	79	71	—	—	—	—	10	3
Pa.	124	108	—	—	1	—	9	13
E.N. CENTRAL	266	340	1	2	4	8	19	47
Ohio	103	93	—	1	—	2	9	15
Ind.	59	49	—	—	4	4	—	1
Ill.	62	120	—	—	—	—	7	21
Mich.	19	21	1	1	—	2	2	4
Wis.	23	57	—	—	—	—	1	6
W.N. CENTRAL	102	99	—	2	3	3	9	11
Minn.	40	43	—	1	3	3	2	1
Iowa	1	1	—	1	—	—	—	—
Mo.	34	38	—	—	—	—	5	7
N. Dak.	4	4	—	—	—	—	1	—
S. Dak.	—	—	—	—	—	—	—	—
Nebr.	9	5	—	—	—	—	1	2
Kans.	14	8	—	—	—	—	—	1
S. ATLANTIC	443	396	1	1	26	26	32	26
Del.	—	—	—	—	—	—	—	—
Md.	66	62	—	—	5	6	—	—
D.C.	—	3	—	—	—	—	—	1
Va.	40	39	—	—	—	—	2	5
W. Va.	26	16	—	—	1	4	6	—
N.C.	72	54	1	1	8	6	—	1
S.C.	30	13	—	—	—	—	3	1
Ga.	89	103	—	—	—	—	14	17
Fla.	120	106	—	—	12	10	7	1
E.S. CENTRAL	101	69	—	1	1	2	19	11
Ky.	8	11	—	—	1	2	2	1
Tenn.	75	43	—	—	—	—	13	8
Ala.	18	13	—	1	—	—	4	2
Miss.	—	2	—	—	—	—	—	—
W.S. CENTRAL	94	74	1	1	8	9	7	1
Ark.	5	2	—	—	1	1	—	—
La.	31	15	1	—	2	—	7	1
Okla.	56	56	—	—	5	8	—	—
Tex.	2	1	—	1	—	—	—	—
MOUNTAIN	199	175	—	4	15	25	34	18
Mont.	—	—	—	—	—	—	—	—
Idaho	5	5	—	—	—	—	—	2
Wyo.	6	1	—	—	—	1	1	—
Colo.	39	44	—	—	1	—	9	5
N. Mex.	20	37	—	1	4	8	2	6
Ariz.	98	59	—	—	7	11	12	2
Utah	17	16	—	2	1	2	7	2
Nev.	14	13	—	1	2	3	3	1
PACIFIC	123	96	1	—	30	21	16	7
Wash.	4	1	—	—	—	—	3	1
Oreg.	29	43	—	—	—	—	5	3
Calif.	54	38	1	—	30	21	2	1
Alaska	26	5	—	—	—	—	6	—
Hawaii	10	9	—	—	—	—	—	1
Guam	—	—	—	—	—	—	—	—
P.R.	3	2	—	—	—	—	1	2
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 \* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Hepatitis (viral, acute), by type					
	A		B		C	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	3,682	5,364	4,915	5,616	643	727
NEW ENGLAND	486	945	263	349	17	16
Maine	4	13	16	5	—	—
N.H.	76	25	26	33	13	8
Vt.	6	8	5	6	1	7
Mass.	337	808	185	198	—	—
R.I.	15	21	3	5	3	1
Conn.	48	70	26	102	97	133
MID. ATLANTIC	622	747	948	688	18	11
Upstate N.Y.	100	103	87	73	—	—
N.Y. City	271	325	109	143	—	—
N.J.	158	169	558	194	79	122
Pa.	93	150	194	278	124	106
E.N. CENTRAL	356	481	473	506	8	6
Ohio	49	47	123	103	23	9
Ind.	51	55	55	40	—	15
Ill.	87	140	103	86	93	76
Mich.	138	133	161	238	—	—
Wis.	31	106	31	39	27	20
W.N. CENTRAL	84	143	243	296	5	17
Minn.	3	32	29	44	—	—
Iowa	20	46	18	14	20	3
Mo.	39	29	147	175	1	—
N. Dak.	—	1	—	4	—	—
S. Dak.	—	3	3	1	1	—
Nebr.	6	12	21	41	—	—
Kans.	16	20	25	17	—	—
S. ATLANTIC	647	939	1,222	1,678	137	180
Del.	5	6	47	48	7	33
Md.	68	100	141	147	23	10
D.C.	4	7	11	19	—	4
Va.	72	113	125	19	12	13
W. Va.	5	5	37	237	21	23
N.C.	82	98	150	40	21	11
S.C.	37	40	126	171	21	15
Ga.	104	302	143	130	3	15
Fla.	270	268	442	425	8	56
E.S. CENTRAL	226	143	322	461	42	84
Ky.	24	29	55	448	75	23
Tenn.	147	91	129	66	9	29
Ala.	35	8	85	212	17	5
Miss.	20	15	53	71	14	27
W.S. CENTRAL	242	625	460	630	81	101
Ark.	13	60	45	104	1	3
La.	63	45	66	64	14	3
Okla.	5	20	34	64	6	92
Tex.	161	500	315	398	60	42
MOUNTAIN	326	388	505	441	43	2
Mont.	9	6	3	1	1	1
Idaho	22	19	13	10	1	2
Wyo.	—	5	2	7	1	14
Colo.	40	47	53	54	23	U
N. Mex.	23	23	9	17	—	5
Ariz.	203	237	356	240	8	5
Utah	19	35	41	42	9	13
Nev.	10	16	28	70	—	45
PACIFIC	693	953	479	580	42	U
Wash.	44	57	58	48	U	15
Oreg.	40	62	92	102	17	28
Calif.	583	803	317	409	24	—
Alaska	4	4	7	11	—	2
Hawaii	22	27	5	10	1	9
Guam	—	1	—	12	—	—
P.R.	58	45	41	72	—	—
V.I.	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U
C.N.M.I.	—	U	—	—	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

N: Not notifiable. U: Unavailable. —: No reported cases.  
\* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).



TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Legionellosis		Listeriosis		Lyme disease		Malaria	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,800	1,855	717	665	19,088	17,046	1,132	1,293
NEW ENGLAND	121	86	54	48	2,376	3,086	61	84
Maine	6	1	3	8	207	29	4	7
N.H.	8	10	7	3	195	203	5	5
Vt.	9	6	2	2	46	48	1	4
Mass.	46	39	16	18	1,004	1,488	31	49
R.I.	19	15	6	1	32	201	2	4
Conn.	33	15	20	16	892	1,117	18	15
MID. ATLANTIC	628	517	182	161	12,105	10,368	308	351
Upstate N.Y.	176	112	56	44	3,727	3,653	48	48
N.Y. City	85	67	35	25	—	345	158	192
N.J.	94	83	33	35	3,300	2,582	70	68
Pa.	273	255	58	57	5,078	3,788	32	43
E.N. CENTRAL	340	450	76	114	1,373	1,297	89	116
Ohio	183	207	31	39	61	48	24	28
Ind.	22	45	5	17	33	27	4	16
Ill.	15	48	2	24	—	87	29	39
Mich.	102	130	27	26	58	26	21	19
Wis.	18	20	11	8	1,221	1,109	11	14
W.N. CENTRAL	93	59	41	19	885	539	44	65
Minn.	26	7	13	5	774	454	11	24
Iowa	6	6	8	3	82	49	8	4
Mo.	33	30	6	7	23	24	17	20
N. Dak.	2	2	4	—	—	—	—	3
S. Dak.	21	4	—	1	1	1	—	1
Nebr.	3	4	5	3	2	8	3	4
Kans.	2	6	5	—	3	3	5	9
S. ATLANTIC	360	378	151	112	2,098	1,547	275	319
Del.	16	13	N	N	594	317	3	6
Md.	103	76	19	17	1,103	830	97	74
D.C.	12	11	—	5	8	13	8	13
Va.	37	48	14	17	219	166	27	50
W. Va.	18	10	4	4	17	28	3	2
N.C.	31	37	32	24	44	111	30	19
S.C.	13	15	12	10	19	26	8	11
Ga.	24	41	21	14	5	12	41	59
Fla.	106	127	49	21	89	44	58	85
E.S. CENTRAL	79	95	28	23	35	44	28	32
Ky.	28	39	4	4	5	15	9	4
Tenn.	35	40	12	12	28	24	13	11
Ala.	13	12	8	5	2	5	6	12
Miss.	3	4	4	2	—	—	—	5
W.S. CENTRAL	25	129	31	39	59	67	80	122
Ark.	4	1	2	3	4	8	6	8
La.	1	8	10	3	7	2	3	6
Okla.	7	6	5	1	—	—	10	7
Tex.	13	114	14	32	48	57	61	101
MOUNTAIN	82	77	16	23	21	17	52	50
Mont.	5	2	—	—	—	—	—	1
Idaho	3	9	—	1	2	6	—	1
Wyo.	4	6	—	—	3	3	2	—
Colo.	21	20	7	12	3	—	23	18
N. Mex.	2	4	4	1	1	1	2	4
Ariz.	24	11	—	—	8	6	14	8
Utah	15	21	3	1	2	1	9	5
Nev.	8	4	2	8	2	—	2	—
PACIFIC	72	64	138	126	136	81	195	154
Wash.	—	9	9	9	9	12	15	16
Oreg.	N	N	11	7	19	26	11	17
Calif.	69	54	117	106	105	41	148	115
Alaska	—	1	—	—	3	2	5	2
Hawaii	3	—	1	4	N	N	16	4
Guam	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	N	N	2	—
V.I.	—	—	—	—	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	—	U
C.N.M.I.	—	U	—	U	—	—	—	—

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 \* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Meningococcal disease									
	All serogroups		Serogroup A, C, Y, and W-135		Serogroup B		Other serogroup		Serogroup unknown	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,033	1,078	84	85	51	41	—	1	898	951
NEW ENGLAND	65	67	1	6	—	6	—	1	64	54
Maine	2	10	—	—	—	1	—	—	2	9
N.H.	12	7	—	—	—	—	—	—	12	7
Vt.	5	3	—	—	—	—	—	—	5	3
Mass.	31	35	—	5	—	5	—	—	31	25
R.I.	3	2	—	1	—	—	—	—	3	1
Conn.	12	10	1	—	—	—	—	1	11	9
MID. ATLANTIC	137	148	37	40	9	5	—	—	91	103
Upstate N.Y.	36	39	4	6	6	3	—	—	26	30
N.Y. City	20	26	—	—	—	—	—	—	20	26
N.J.	34	31	—	—	—	—	—	—	34	31
Pa.	47	52	33	34	3	2	—	—	11	16
E.N. CENTRAL	117	122	32	29	11	6	—	—	74	87
Ohio	42	62	—	4	7	5	—	—	35	53
Ind.	18	18	—	1	4	1	—	—	14	16
Ill.	15	1	—	—	—	—	—	—	15	1
Mich.	32	24	32	24	—	—	—	—	—	—
Wis.	10	17	—	—	—	—	—	—	10	17
W.N. CENTRAL	74	74	3	—	1	5	—	—	70	69
Minn.	15	23	1	—	—	—	—	—	14	23
Iowa	16	17	—	—	1	3	—	—	15	14
Mo.	26	19	1	—	—	1	—	—	25	18
N. Dak.	1	2	—	—	—	—	—	—	1	2
S. Dak.	4	2	1	—	—	1	—	—	3	1
Nebr.	5	4	—	—	—	—	—	—	5	4
Kans.	7	7	—	—	—	—	—	—	7	7
S. ATLANTIC	198	203	6	2	9	4	—	—	183	197
Del.	4	6	—	—	—	—	—	—	4	6
Md.	21	10	3	—	2	—	—	—	16	10
D.C.	—	5	—	2	—	—	—	—	—	3
Va.	30	20	—	—	—	—	—	—	30	20
W. Va.	6	5	1	—	—	—	—	—	5	5
N.C.	32	28	2	—	7	4	—	—	23	24
S.C.	15	15	—	—	—	—	—	—	15	15
Ga.	15	14	—	—	—	—	—	—	15	14
Fla.	75	100	—	—	—	—	—	—	75	100
E.S. CENTRAL	52	64	1	1	3	1	—	—	48	62
Ky.	16	11	—	1	3	1	—	—	13	9
Tenn.	24	22	—	—	—	—	—	—	24	22
Ala.	6	16	1	—	—	—	—	—	5	16
Miss.	6	15	—	—	—	—	—	—	6	15
W.S. CENTRAL	89	66	1	3	5	2	—	—	83	61
Ark.	14	15	—	—	—	1	—	—	14	14
La.	27	31	—	1	2	—	—	—	25	30
Okla.	13	10	1	2	3	1	—	—	9	7
Tex.	35	10	—	—	—	—	—	—	35	10
MOUNTAIN	80	60	2	1	6	5	—	—	72	54
Mont.	—	3	—	—	—	—	—	—	—	3
Idaho	6	7	—	—	—	—	—	—	6	7
Wyo.	—	4	—	—	—	—	—	—	—	4
Colo.	17	15	1	—	1	—	—	—	15	15
N. Mex.	3	8	—	1	—	3	—	—	3	4
Ariz.	36	11	—	—	2	1	—	—	34	10
Utah	10	5	1	—	2	—	—	—	7	5
Nev.	8	7	—	—	1	1	—	—	7	6
PACIFIC	221	274	1	3	7	7	—	—	213	264
Wash.	42	28	1	3	4	7	—	—	37	18
Oreg.	28	52	—	—	—	—	—	—	28	52
Calif.	136	181	—	—	—	—	—	—	136	181
Alaska	3	4	—	—	—	—	—	—	3	4
Hawaii	12	9	—	—	3	—	—	—	9	9
Guam	—	1	—	—	—	—	—	—	—	1
P.R.	6	17	—	—	—	—	—	—	6	17
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	1	1	—	—	—	—	—	—	1	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 \* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Pertussis		Rabies, animal		Rocky Mountain spotted fever		Salmonellosis		Shigellosis	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	18,388	19,447	4,932	5,954	1,611	1,436	38,016	38,000	12,365	12,371
NEW ENGLAND	1,104	1,845	638	649	3	20	1,934	1,887	271	276
Maine	30	40	49	52	N	N	139	96	9	8
N.H.	65	93	12	30	1	—	152	129	8	9
Vt.	76	95	53	35	—	1	89	57	16	3
Mass.	857	1,518	312	275	1	15	1,028	1,083	172	173
R.I.	34	38	22	43	1	1	87	108	14	18
Conn.	42	61	190	214	—	3	439	414	52	65
MID. ATLANTIC	1,200	2,573	877	906	100	74	4,514	5,221	1,120	1,085
Upstate N.Y.	484	1,771	511	499	5	1	1,153	1,145	249	389
N.Y. City	85	180	27	12	8	23	1,077	1,185	367	375
N.J.	192	190	N	N	31	14	770	983	279	221
Pa.	439	432	339	395	56	36	1,514	1,908	225	100
E.N. CENTRAL	3,211	7,434	196	184	34	34	4,757	4,681	887	1,123
Ohio	1,063	552	69	74	21	10	1,220	1,115	112	153
Ind.	302	223	11	10	3	6	557	441	164	189
Ill.	580	1,322	50	50	1	14	1,410	1,500	269	382
Mich.	274	273	37	41	7	2	808	771	208	197
Wis.	992	5,064	29	9	2	2	762	854	134	202
W.N. CENTRAL	3,044	2,307	393	583	162	122	2,310	2,193	1,477	391
Minn.	1,025	438	67	84	3	4	523	569	86	63
Iowa	614	495	104	97	4	2	396	405	96	60
Mo.	474	349	75	58	141	97	763	562	935	155
N. Dak.	139	710	25	58	—	—	39	40	4	3
S. Dak.	153	124	48	93	5	4	139	112	45	10
Nebr.	177	59	—	96	4	15	120	158	79	28
Kans.	462	132	74	97	5	—	330	347	232	72
S. ATLANTIC	1,236	736	1,509	2,045	810	750	11,450	10,305	2,150	2,668
Del.	15	5	—	9	4	6	114	103	11	10
Md.	167	137	303	295	84	69	760	770	99	140
D.C.	8	9	—	—	2	—	53	59	13	38
Va.	315	196	481	446	99	30	1,001	1,060	114	145
W. Va.	43	22	52	63	7	5	169	221	1	9
N.C.	118	79	445	550	468	484	1,556	1,526	184	341
S.C.	341	143	5	156	62	60	1,215	909	91	501
Ga.	40	24	216	321	66	78	1,749	1,808	567	602
Fla.	189	121	7	205	18	18	4,833	3,849	1,070	882
E.S. CENTRAL	443	272	131	145	260	193	2,711	2,508	1,104	853
Ky.	127	67	16	22	3	2	449	319	294	72
Tenn.	191	150	43	50	190	109	721	645	504	443
Ala.	80	39	70	62	63	54	700	690	216	288
Miss.	45	16	2	11	4	28	841	854	90	50
W.S. CENTRAL	1,571	864	803	1,033	197	218	3,306	3,979	2,397	3,373
Ark.	268	78	33	50	121	134	692	528	59	74
La.	35	19	—	4	5	5	777	898	128	283
Okla.	—	38	72	106	52	71	371	367	596	430
Tex.	1,268	729	698	873	19	8	1,466	2,186	1,614	2,586
MOUNTAIN	3,709	1,552	217	214	36	21	2,116	2,162	852	771
Mont.	547	54	15	26	1	3	124	179	5	4
Idaho	223	37	—	8	3	4	138	144	17	13
Wyo.	47	31	17	6	2	5	79	49	5	5
Colo.	1,260	860	16	47	5	4	543	504	154	147
N. Mex.	127	149	10	5	3	2	215	265	117	132
Ariz.	910	207	131	111	18	2	626	633	483	372
Utah	563	172	15	8	4	1	305	222	43	43
Nev.	32	42	13	3	—	—	86	166	28	55
PACIFIC	2,870	1,864	168	195	9	4	4,918	5,064	2,107	1,831
Wash.	782	675	U	U	—	—	494	505	126	99
Oreg.	568	482	7	6	2	2	350	395	117	81
Calif.	1,261	667	160	178	7	2	3,743	3,766	1,824	1,600
Alaska	115	14	1	11	—	—	56	57	7	6
Hawaii	144	26	—	—	—	—	275	341	33	45
Guam	—	—	—	—	—	—	—	50	—	42
P.R.	6	5	59	57	N	N	422	456	5	32
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 \* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Streptococcal disease, invasive, group A		Streptococcus pneumoniae, invasive disease				Syphilis			
			Drug resistant, all ages		Age <5 years		Primary & secondary		Congenital	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	3,818	3,961	1,938	2,006	814	737	7,239	7,009	240	344
NEW ENGLAND	156	254	108	154	61	103	194	174	1	4
Maine	10	11	N	N	—	7	1	2	—	—
N.H.	14	18	—	—	4	N	14	4	—	3
Vt.	10	9	12	7	6	3	1	—	—	—
Mass.	113	111	80	49	50	58	115	107	—	—
R.I.	9	21	16	20	1	6	20	25	—	1
Conn.	U	84	U	78	U	29	43	36	1	—
MID. ATLANTIC	780	653	179	139	128	113	899	909	30	34
Upstate N.Y.	233	211	70	57	56	77	78	83	7	4
N.Y. City	146	111	U	U	20	U	551	578	5	15
N.J.	155	133	N	N	24	10	117	133	18	14
Pa.	246	198	109	82	28	26	153	115	—	1
E.N. CENTRAL	754	891	552	448	247	175	765	801	32	54
Ohio	177	207	328	308	74	71	199	215	1	2
Ind.	92	93	174	140	47	42	56	55	1	3
Ill.	168	232	14	—	58	12	403	339	12	18
Mich.	281	272	36	N	51	N	75	163	15	30
Wis.	36	87	N	N	17	50	32	29	3	1
W.N. CENTRAL	243	285	45	19	84	98	214	143	5	5
Minn.	96	137	—	—	49	65	54	24	1	1
Iowa	N	N	N	N	—	N	4	5	—	—
Mo.	62	59	37	14	9	13	132	85	4	2
N. Dak.	9	12	3	—	4	4	1	—	—	—
S. Dak.	20	17	3	5	—	—	—	—	—	—
Nebr.	21	20	2	—	7	8	1	—	—	—
Kans.	35	40	N	N	15	8	18	23	—	2
S. ATLANTIC	845	793	744	995	76	53	1,829	1,779	38	56
Del.	5	3	1	4	—	N	10	8	—	1
Md.	186	134	—	—	51	38	278	328	13	9
D.C.	10	10	15	9	3	4	90	61	—	1
Va.	77	67	N	N	—	N	123	94	4	3
W. Va.	22	24	104	99	22	11	4	3	—	—
N.C.	118	118	N	N	U	U	242	177	9	10
S.C.	30	51	—	83	—	U	72	109	4	12
Ga.	166	184	116	269	—	N	352	345	1	4
Fla.	231	202	508	531	—	N	658	654	7	16
E.S. CENTRAL	159	200	152	147	13	16	423	365	24	21
Ky.	32	58	25	30	N	N	47	44	—	1
Tenn.	127	142	127	115	—	N	196	117	17	8
Ala.	—	—	—	—	—	N	140	152	6	10
Miss.	—	—	—	2	13	16	40	52	1	2
W.S. CENTRAL	239	314	102	75	147	142	1,152	1,108	67	69
Ark.	21	16	13	10	15	8	44	46	1	3
La.	7	2	89	65	24	31	230	291	11	6
Okla.	104	63	N	N	29	44	37	25	1	2
Tex.	107	233	N	N	79	59	841	746	54	58
MOUNTAIN	543	448	56	28	49	34	346	355	17	45
Mont.	—	—	—	—	—	—	5	1	—	—
Idaho	3	9	N	N	—	N	20	22	1	2
Wyo.	4	9	23	11	—	—	—	3	—	—
Colo.	187	101	N	N	48	34	38	57	1	1
N. Mex.	42	88	—	N	—	—	44	76	2	2
Ariz.	231	201	N	N	—	N	155	149	12	39
Utah	75	36	31	15	1	—	6	11	—	1
Nev.	1	4	2	2	—	—	78	36	1	—
PACIFIC	99	123	—	1	9	3	1,417	1,375	26	56
Wash.	N	N	N	N	N	N	137	127	—	—
Oreg.	N	N	N	N	6	N	32	25	—	—
Calif.	—	—	N	N	N	N	1,233	1,215	26	56
Alaska	—	—	—	—	—	—	6	1	—	—
Hawaii	99	123	—	1	3	3	9	7	—	—
Guam	—	—	—	—	—	—	—	2	—	—
P.R.	N	N	N	N	—	N	196	156	9	5
V.I.	—	—	—	—	—	—	—	4	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases.

C.N.M.I.: Commonwealth of Northern Mariana Islands.

\* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).



TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 26, 2005, and November 27, 2004 (47th Week)\*

Reporting area	Tuberculosis		Typhoid fever		Varicella (chickenpox)		West Nile virus disease <sup>†</sup>		
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Neuroinvasive		Non-neuroinvasive <sup>‡</sup>
							Cum. 2005	Cum. 2004	
UNITED STATES	10,195	11,967	240	292	22,918	25,757	1,146	1,139	1,427
NEW ENGLAND	310	395	23	21	2,227	3,089	9	—	4
Maine	14	18	1	—	213	226	—	—	—
N.H.	6	16	—	—	1,382	—	—	—	—
Vt.	5	3	—	—	90	413	—	—	—
Mass.	204	225	13	15	542	743	4	—	2
R.I.	29	48	1	1	—	—	1	—	—
Conn.	52	85	8	5	U	1,707	4	—	2
MID. ATLANTIC	1,808	1,867	46	71	4,228	86	26	17	17
Upstate N.Y.	227	262	5	10	—	—	—	5	—
N.Y. City	885	923	20	29	—	—	10	2	4
N.J.	425	416	13	17	—	—	2	1	2
Pa.	271	266	8	15	4,228	86	14	9	11
E.N. CENTRAL	1,095	1,047	22	34	5,777	11,348	233	66	115
Ohio	219	178	2	6	1,359	1,291	46	11	15
Ind.	118	113	1	—	482	N	10	8	1
Ill.	509	470	8	16	72	5,750	130	29	88
Mich.	181	205	6	9	3,502	3,689	36	13	5
Wis.	68	81	5	3	362	618	11	5	6
W.N. CENTRAL	390	418	6	8	536	169	141	86	417
Minn.	163	159	5	4	—	—	16	13	27
Iowa	38	42	—	—	N	N	12	13	18
Mo.	93	111	—	2	394	5	17	27	13
N. Dak.	2	4	—	—	55	82	12	2	74
S. Dak.	13	8	—	—	87	82	35	6	197
Nebr.	29	34	—	2	—	—	36	7	80
Kans.	52	60	1	—	—	—	13	18	8
S. ATLANTIC	2,214	2,535	48	43	2,092	2,098	30	65	22
Del.	19	17	1	—	28	5	1	—	—
Md.	236	250	11	12	—	—	4	10	1
D.C.	47	75	—	—	37	23	—	1	—
Va.	264	248	17	9	558	481	—	4	—
W. Va.	24	21	—	—	1,016	1,194	—	—	N
N.C.	248	299	5	8	—	N	2	3	2
S.C.	199	163	—	—	453	395	5	—	—
Ga.	343	516	3	4	—	—	9	14	7
Fla.	834	946	11	10	—	—	9	33	12
E.S. CENTRAL	503	583	6	8	—	48	63	60	38
Ky.	97	103	2	3	N	N	5	1	—
Tenn.	233	197	1	5	—	—	13	13	3
Ala.	173	179	1	—	—	48	6	15	4
Miss.	—	104	2	—	—	—	39	31	31
W.S. CENTRAL	1,310	1,734	16	26	5,753	6,656	231	234	115
Ark.	94	106	—	—	19	—	11	17	15
La.	—	—	1	—	111	54	100	82	38
Okla.	126	149	1	1	—	—	13	16	11
Tex.	1,090	1,479	14	25	5,623	6,602	107	119	51
MOUNTAIN	335	461	9	7	2,305	2,263	134	322	205
Mont.	8	4	—	—	—	—	8	2	17
Idaho	—	3	—	—	—	—	2	1	7
Wyo.	—	4	—	—	52	55	6	2	6
Colo.	51	112	5	2	1,655	1,797	19	41	72
N. Mex.	19	32	—	—	153	U	20	31	13
Ariz.	200	187	2	2	—	—	44	214	44
Utah	26	35	1	1	445	411	21	6	31
Nev.	31	84	1	2	—	—	14	25	15
PACIFIC	2,230	2,927	64	74	—	—	279	289	494
Wash.	222	203	5	6	N	N	—	—	—
Oreg.	54	92	3	1	—	—	1	—	6
Calif.	1,812	2,498	44	61	—	—	278	289	488
Alaska	38	33	—	—	—	—	—	—	—
Hawaii	104	101	12	6	—	—	—	—	—
Guam	—	49	—	—	—	209	—	—	—
P.R.	—	98	—	—	565	368	—	—	—
V.I.	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	—
C.N.M.I.	—	U	—	U	—	U	—	U	—

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

\* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

‡ Not previously notifiable.

TABLE III. Deaths in 122 U.S. cities,\* week ending November 26, 2005 (47th Week)

All causes, by age (years)								All causes, by age (years)								
Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total	Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total	
NEW ENGLAND	423	286	104	14	9	10	38	S. ATLANTIC	771	449	204	77	22	19	35	
Boston, Mass.	118	79	30	4	2	3	11	Atlanta, Ga.	135	70	37	22	4	2	8	
Bridgeport, Conn.	34	27	5	1	—	1	5	Baltimore, Md.	156	78	49	21	3	5	10	
Cambridge, Mass.	12	9	2	—	1	—	1	Charlotte, N.C.	63	46	13	3	—	1	2	
Fall River, Mass.	15	11	4	—	—	—	1	Jacksonville, Fla.	117	79	25	8	3	2	6	
Hartford, Conn.	41	22	12	4	1	2	3	Miami, Fla.	U	U	U	U	U	U	U	
Lowell, Mass.	21	15	6	—	—	—	3	Norfolk, Va.	37	22	8	2	3	2	2	
Lynn, Mass.	10	7	3	—	—	—	—	Richmond, Va.	36	18	12	1	3	2	2	
New Bedford, Mass.	13	8	3	2	—	—	1	Savannah, Ga.	32	19	8	2	2	1	—	
New Haven, Conn.	18	12	4	—	1	1	2	St. Petersburg, Fla.	22	15	6	1	—	—	2	
Providence, R.I.	58	33	19	1	3	2	5	Tampa, Fla.	87	55	22	6	2	2	2	
Somerville, Mass.	4	3	1	—	—	—	—	Washington, D.C.	76	38	23	11	2	2	1	
Springfield, Mass.	32	23	8	—	1	—	3	Wilmington, Del.	10	9	1	—	—	—	—	
Waterbury, Conn.	10	7	3	—	—	—	1	E.S. CENTRAL	594	386	136	46	13	13	37	
Worcester, Mass.	37	30	4	2	—	1	2	Birmingham, Ala.	104	69	21	8	3	3	8	
MID. ATLANTIC	1,786	1,244	388	97	30	24	117	Chattanooga, Tenn.	40	29	10	1	—	—	3	
Albany, N.Y.	42	31	8	1	—	2	3	Knoxville, Tenn.	73	49	16	5	2	1	—	
Allentown, Pa.	29	22	5	—	2	—	3	Lexington, Ky.	35	24	7	2	—	2	3	
Buffalo, N.Y.	80	50	26	3	1	—	10	Memphis, Tenn.	192	126	41	13	7	5	13	
Camden, N.J.	23	14	7	—	2	—	4	Mobile, Ala.	27	19	5	2	—	1	—	
Elizabeth, N.J.	14	9	2	3	—	—	3	Montgomery, Ala.	29	19	6	4	—	—	2	
Erie, Pa.	32	27	4	1	—	—	3	Nashville, Tenn.	94	51	30	11	1	1	8	
Jersey City, N.J.	16	11	3	1	1	—	—	W.S. CENTRAL	958	589	254	72	19	24	53	
New York City, N.Y.	916	645	190	52	15	11	46	Austin, Tex.	67	40	19	6	1	1	5	
Newark, N.J.	33	15	9	4	—	5	2	Baton Rouge, La.	30	20	8	2	—	—	2	
Paterson, N.J.	8	5	2	—	1	—	—	Corpus Christi, Tex.	34	22	7	4	1	—	2	
Philadelphia, Pa.	261	168	70	15	6	2	16	Dallas, Tex.	108	61	30	12	1	4	6	
Pittsburgh, Pa. <sup>‡</sup>	14	9	3	1	1	—	2	El Paso, Tex.	69	47	13	5	2	2	4	
Reading, Pa.	28	20	7	1	—	—	2	Ft. Worth, Tex.	96	57	25	9	3	2	2	
Rochester, N.Y.	92	69	18	3	—	2	11	Houston, Tex.	264	149	78	18	6	13	19	
Schenectady, N.Y.	19	16	3	—	—	—	1	Little Rock, Ark.	35	25	7	3	—	—	1	
Scranton, Pa.	32	26	4	2	—	—	1	New Orleans, La. <sup>§</sup>	U	U	U	U	U	U	U	
Syracuse, N.Y.	86	62	15	6	1	2	8	San Antonio, Tex.	160	105	41	10	2	2	10	
Trenton, N.J.	19	14	4	1	—	—	—	Shreveport, La.	24	22	—	2	—	—	1	
Utica, N.Y.	20	18	2	—	—	—	1	Tulsa, Okla.	71	41	26	1	3	—	1	
Yonkers, N.Y.	22	13	6	3	—	—	1	MOUNTAIN	765	487	172	64	26	16	49	
E.N. CENTRAL	1,746	1,149	396	128	38	35	140	Albuquerque, N.M.	106	69	24	8	5	—	9	
Akron, Ohio	37	26	6	3	2	—	2	Boise, Idaho	24	19	3	1	—	1	—	
Canton, Ohio	35	23	9	1	—	2	6	Colo. Springs, Colo.	55	40	9	2	2	2	2	
Chicago, Ill.	378	203	105	48	10	12	22	Denver, Colo.	80	48	19	8	1	4	6	
Cincinnati, Ohio	116	82	17	5	5	7	16	Las Vegas, Nev.	214	133	51	22	4	4	18	
Cleveland, Ohio	233	168	44	13	3	5	15	Ogden, Utah	17	14	1	2	—	—	—	
Columbus, Ohio	150	104	29	11	5	1	15	Phoenix, Ariz.	131	79	34	11	4	3	6	
Dayton, Ohio	88	57	22	7	2	—	9	Pueblo, Colo.	33	22	11	—	—	—	2	
Detroit, Mich.	103	52	38	12	—	1	11	Salt Lake City, Utah	105	63	20	10	10	2	6	
Evansville, Ind.	42	26	8	5	2	1	3	Tucson, Ariz.	U	U	U	U	U	U	U	
Fort Wayne, Ind.	39	30	7	1	—	1	2	PACIFIC	901	613	187	56	23	22	75	
Gary, Ind.	10	6	3	1	—	—	—	Berkeley, Calif.	9	6	2	1	—	—	—	
Grand Rapids, Mich.	34	25	5	1	2	1	3	Fresno, Calif.	U	U	U	U	U	U	U	
Indianapolis, Ind.	155	114	29	7	3	2	6	Glendale, Calif.	8	7	1	—	—	—	1	
Lansing, Mich.	32	22	10	—	—	—	3	Honolulu, Hawaii	49	31	11	1	2	4	4	
Milwaukee, Wis.	62	40	16	3	1	2	7	Long Beach, Calif.	57	40	10	5	2	—	7	
Peoria, Ill.	38	25	10	2	1	—	3	Los Angeles, Calif.	101	65	28	6	—	2	5	
Rockford, Ill.	37	28	7	2	—	—	1	Pasadena, Calif.	20	12	5	1	—	2	1	
South Bend, Ind.	15	10	5	—	—	—	—	Portland, Oreg.	115	76	25	7	1	6	6	
Toledo, Ohio	100	73	19	6	2	—	10	Sacramento, Calif.	U	U	U	U	U	U	U	
Youngstown, Ohio	42	35	7	—	—	—	6	San Diego, Calif.	96	60	22	6	4	4	9	
W.N. CENTRAL	480	320	107	28	12	13	29	San Francisco, Calif.	86	62	14	6	1	3	14	
Des Moines, Iowa	98	72	16	7	1	2	7	San Jose, Calif.	149	106	29	8	6	—	20	
Duluth, Minn.	15	13	1	1	—	—	—	Santa Cruz, Calif.	18	11	6	1	—	—	—	
Kansas City, Kans.	16	9	6	—	1	—	2	Seattle, Wash.	84	58	17	5	3	1	4	
Kansas City, Mo.	91	49	25	10	3	4	1	Spokane, Wash.	41	34	4	2	1	—	1	
Lincoln, Nebr.	27	20	5	—	2	—	2	Tacoma, Wash.	68	45	13	7	3	—	3	
Minneapolis, Minn.	36	23	11	—	2	—	3	TOTAL	8,424**	5,523	1,948	582	192	176	573	
Omaha, Nebr.	59	37	14	4	—	4	6									
St. Louis, Mo.	51	25	18	5	—	3	3									
St. Paul, Minn.	34	30	4	—	—	—	2									
Wichita, Kans.	53	42	7	1	3	—	3									

U: Unavailable. —: No reported cases.

\* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

‡ Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

§ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

\*\* Total includes unknown ages.



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